

# MAGNETIC FLOAT LEVEL TRANSMITTER

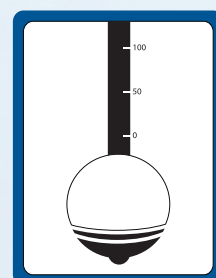


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Functional description

**Functional description**

The magnetic float level transmitter device serves as a readings recorder for the electrical, continuous remote indication of the filling level. The operation of the measuring devices is based on the float principle. Through the wall of a guide tube the magnetic field, which is contained in the spherical or cylindrical float, triggers reed contacts, which uninterruptedly pick up the measuring voltage given at a resistance measuring chain.

The measuring voltage is proportional to the height of the filling level ( 3-wire potentiometer circuit ). The size of the reed contacts is made up in different accuracy's. In connection with a control unit the resistance value can be converted into a standardised analogue value, e.g. 4 ...20 mA.



**Application area**

Magnetic float level transmitter are exclusively meant for the monitoring of the filling level of liquid media and may be installed into vessels and tanks which meet the technical requirements, i.e. which are designed for the according operating parameters.

All materials which will come in touch with the liquid medium have to be invariable, accordingly.

**Design limits**

|                     |                         |
|---------------------|-------------------------|
| Specific gravity:   | ≥ 400 kg/m <sup>3</sup> |
| Design pressure:    | -1 bar ... 150 bar      |
| Design temperature: | -50°C ... 250°C         |

# Magnetic Float Level Transmitter / Type key

## Code 1

| Key 1<br>... / ... / ... -   | Key 2<br>... / ... / ... -  | Key 3<br>... / ... / ... -  |
|--|---|---|
| Electrical connection  | Process connection material quality   | Process connection  |
| ALE Aluminium terminal box 64 x 58 x 34 mm (only without control unit)           | V <sup>1</sup> Stainless steel<br>VP <sup>1</sup> Stainless steel electropolished / Ra ca. 0,8µm (not attestable) | E <sup>1</sup> Thread to electrical direction, G/BSP<br>R <sup>1</sup> Thread to float direction, G/BSP |
| ALF Aluminium terminal box 80 x 75 x 57 mm                                       | Ti <sup>1</sup> Titanium  | ENPT <sup>1</sup> Thread to electrical direction, NPT   |
| ALG Aluminium terminal box 100 x 100 x 81 mm                                     | HC <sup>1</sup> Alloy C   | RNPT <sup>1</sup> Thread to float direction, NPT  |
| ALDA <sup>1</sup> Aluminium terminal box Ø 95 x 84 mm                            | ME Brass  | EM <sup>1</sup> Thread to electrical direction, metric  |
| AVA Stainless steel terminal box Ø 82 x 110 mm                                   | VEEC <sup>1</sup> Stainless steel ECTFE coated  | RM <sup>1</sup> Thread to float direction, metric   |
| AVDA <sup>1</sup> Stainless steel terminal box Ø 82 x 110 mm                     | VPFA <sup>1</sup> Stainless steel PFA coated  | FE <sup>1</sup> Flange according to EN  |
| AVM Stainless steel terminal box Ø 50 x 117 mm                                   | P PVC   | FA <sup>1</sup> Flange according to ANSI  |
| AVDM <sup>1</sup> Stainless steel terminal box Ø 169 x 117 mm                    | PP Polypropylene  | F <sup>1</sup> Flange according to ...  |
| DAAVDM <sup>1</sup> Stainless steel terminal box with LED display Ø 169 x 117 mm | PF PVDF   | FS <sup>1</sup> Flange according to drawing   |
| APA Polyester terminal box 80 x 75 x 55 mm                                       | PA Polyamide  | OP <sup>1</sup> Standard oval flange 80 x 50 mm   |
| APB Polyester terminal box 80 x 75 x 55 mm / Exm                                 |   | SO Without process connection   |
| ABA ABS terminal box 80 x 82 x 55 mm   |   | TC <sup>1</sup> Try-Clamp according to ISO 2852   |
| K Connection cable   |   | BK <sup>1</sup> Aseptic blind cone according to DIN 11851   |
| K68 Connection cable IP 68 (≥ G 3/8")  |   | BKN <sup>1</sup> Aseptic blind cone according to DIN 11851 with groove nut                              |
| ASH Connector Hirschmann DIN 43650   |   | BKD <sup>1</sup> Aseptic blind cone according to DIN 32676  |
| ASHAA Plastic connector HTS straight   |   | BKND <sup>1</sup> Aseptic blind cone according to DIN 32676 with groove nut                             |
| ASHAB Plastic connector HTS angulate   |   | GM <sup>1</sup> Female thread G (only bypass chamber)   |
| ASHBA Aluminium connector HTS straight   |   | NPTM <sup>1</sup> Female thread NPT (only bypass chamber)   |
| ASHBB Aluminium connector HTS angulate   |   | GN <sup>1</sup> Male thread G (only bypass chamber)   |
| ASQ Quick-On Connector   |   | NPTN <sup>1</sup> Male thread NPT (only bypass chamber)   |
| ASMA Connector M12 3-pins  |   | SE <sup>1</sup> Welding stub end (only bypass chamber)  |
| ASMB Connector M12 8-pins  |   | ERVE Cutting ring union (only bypass chamber)   |
| ASC Connector C091D 7-pins   |   |   |
| DAALA Aluminium terminal box with LED display Ø 82 x 100 mm                      |   |   |
| DAAVDA <sup>1</sup> Stainless steel terminal box with LED display Ø 82 x 100 mm  |   |   |

## Code 2

| Key 1<br>... -               | Key 1<br>... -           |
|------------------------------|--------------------------|
| Threaded connection          | Try-Clamp / Aseptic cone |
| ... Threaded connection size | ... Nominal size         |

## Code 2

| Key 1.1 (only for flange)<br>... / ... / ... - | Key 1.2 (only for flange)<br>... / ... / ... - | Key 1.3 (only for flange)<br>... / ... / ... - |
|--|--|--|
| Flange connection                              | Flange connection                              | Flange connection                              |
| ... Flange nominal bore                        | ... Flange pressure rating                     | ... Flange facing                              |

## Example

| Code    | 1              | 2                 | 3       | 4         | 5            | 6                       |
|---------|----------------|-------------------|---------|-----------|--------------|-------------------------|
| Key     | 1 / 2 / 3 -    | 1.1 / 1.2 / 1.3 - | 1 -     | 1 / 2 -   | 1 / 2 / 3 -  | 1 / 2 / 3 / 4 -         |
| Example | ALE / V / FE - | 80 / 16 / B1 -    | TP43B - | V / K15 - | U / R / TO - | 1 / TFA2 / TPAT / 050 - |

Black = not possible according to Atex / Blue = possible according to Atex Exia / Blue<sup>1</sup> = possible according to Atex Exia and Exd / Black<sup>1</sup> = possible according to Atex Exd



Code 3

| Key 1<br>... -<br>Control unit |                                    | Key 1<br>... -<br>Control unit |  |
|--------------------------------|------------------------------------|--------------------------------|--|
| TP43A <sup>1</sup>             | TP5343A                            | TMT181A <sup>1</sup>           | TMT181                                 |
| TP43B <sup>1</sup>             | TP5343B Ex                         | TMT181B <sup>1</sup>           | TMT181 Ex                              |
| TD35A <sup>1</sup>             | TD5335A                            | ZMU <sup>1</sup>               | XT42SI Ex                              |
| TD35B <sup>1</sup>             | TD5335D Ex                         | TAMX <sup>1</sup>              | other control unit                     |
| TP50AP <sup>1</sup>            | TP5350AP / PROFIBUS® PA            | MST <sup>1</sup>               | Magnetostrictive / 4 ... 20 mA         |
| TP50BP <sup>1</sup>            | TP5350BP Ex / PROFIBUS® PA         | MSTB <sup>1</sup>              | Magnetostrictive / 4 ... 20 mA / Ex    |
| TP50AF <sup>1</sup>            | TP5350AF / FOUNDATION™ Fieldbus    | MSTH <sup>1</sup>              | Magnetostrictive / HART®-Protocol      |
| TP50BF <sup>1</sup>            | TP5350BF Ex / FOUNDATION™ Fieldbus | MSTHB <sup>1</sup>             | Magnetostrictive / HART®-Protocol / Ex |

Code 4

| Key 1<br>... / ... -<br>Guide tube material quality |   | Key 2<br>... / ... -<br>Accuracy |                                  |
|---|---|----------------------------------|----------------------------------|
| V <sup>1</sup>                                      | Stainless steel   | K5 <sup>1</sup>                  | Accuracy 5 mm / -30 ... 130°C    |
| VP <sup>1</sup>                                     | Stainless steel electropolished / Ra ca. 0,8µm (not attestable) | K5HTF <sup>1</sup>               | Accuracy 5 mm / -30 ... 200°C    |
| TI <sup>1</sup>                                     | Titanium  | K5HT <sup>1</sup>                | Accuracy 5 mm / -40 ... 250°C    |
| HC <sup>1</sup>                                     | Alloy C   | K10 <sup>1</sup>                 | Accuracy 10 mm / -30 ... 130°C   |
| ME  | Brass   | K10HTF <sup>1</sup>              | Accuracy 10 mm / -30 ... 200°C   |
| VEEC <sup>1</sup>                                   | Stainless steel ECTFE coated                                    | K10HT <sup>1</sup>               | Accuracy 10 mm / -40 ... 250°C   |
| VPFA <sup>1</sup>                                   | Stainless steel PFA coated                                      | K12.7 <sup>1</sup>               | Accuracy 12.7 mm / -30 ... 130°C |
| P   | PVC   | K15 <sup>1</sup>                 | Accuracy 15 mm / -30 ... 130°C   |
| PP  | Polypropylene   | K15HTF <sup>1</sup>              | Accuracy 15 mm / -30 ... 200°C   |
| PF  | PVDF  | K15HT <sup>1</sup>               | Accuracy 15 mm / -40 ... 250°C   |
| PA  | Polyamide   | K1 <sup>1</sup>                  | Accuracy 0.2 mm / -40 ... 125°C  |
|   |   | K1HT <sup>1</sup>                | Accuracy 0.2 mm / -40 ... 250°C  |

Code 5

| Key 1<br>... / ... / ... -<br>Level switch function |                  | Key 2<br>... / ... / ... -<br>Level switch option |   | Key 3<br>... / ... / ... -<br>Temperature switch function |                                     |
|---|------------------|---|---|---|-------------------------------------|
| U <sup>1</sup>                                      | Change over*     | R22 <sup>1</sup>                                  | Switch protective circuit with 22 ohm / 0.21 W resistor | TS <sup>1</sup>   | Temperature switch normally open*   |
| S <sup>1</sup>                                      | Normally open*   | N <sup>1</sup>                                    | Switch protective circuit according to NAMUR EN 60947   | TO <sup>1</sup>   | Temperature switch normally closed* |
| O <sup>1</sup>                                      | Normally closed* |   |   | TPS <sup>1</sup>  | Temperature switch normally open*   |
|   |                  |   |   | TPO <sup>1</sup>  | Temperature switch normally closed* |

\* Multiple selections possible e.g. 'OSS'

\* Multiple selections possible e.g. 'TSTO'

Code 6

| Key 1<br>... / ... / ... -<br>Number of probes |                              | Key 2<br>... / ... / ... -<br>Temperature probe |  | Key 3<br>... / ... / ... -<br>Temperature control unit |                                    |
|--|------------------------------|---|--|--|------------------------------------|
| ...  | Number of temperature probes | TFA2 <sup>1</sup>                               | Pt 100 Probe / 2-wire                        | TPAT <sup>1</sup>                                      | TP5333A                            |
|  |                              | TFA3 <sup>1</sup>                               | Pt 100 Probe / 3-wire                        | TPBT <sup>1</sup>                                      | TP5333D Ex                         |
|  |                              | TFA4 <sup>1</sup>                               | Pt 100 Probe / 4-wire                        | TDAT <sup>1</sup>                                      | TD5335A                            |
|  |                              | TFB2 <sup>1</sup>                               | Pt 1000 Probe / 2-wire                       | TDBT <sup>1</sup>                                      | TD5335D Ex                         |
|  |                              | TFB3 <sup>1</sup>                               | Pt 1000 Probe / 3-wire                       | PAATP <sup>1</sup>                                     | TP5350AP / PROFIBUS® PA            |
|  |                              | TFB4 <sup>1</sup>                               | Pt 1000 Probe / 4-wire                       | PABTP <sup>1</sup>                                     | TP5350BP Ex / PROFIBUS® PA         |
|  |                              | TF <sup>1</sup>                                 | Temperature probe (acc. to customers device) | PAATF <sup>1</sup>                                     | TP5350AF / FOUNDATION™ Fieldbus    |
|  |                              |   |  | PABTF <sup>1</sup>                                     | TP5350BF Ex / FOUNDATION™ Fieldbus |

Example

| 7                   | 8                   | 9           | 10          | 11            | Code    |
|---------------------|---------------------|-------------|-------------|---------------|---------|
| 1 / 2 / 3 / 4 / 5 - | 1 / 2 / 3 / 4 -     | 1 / 2 / 3 - | 1 / 2 / 3 - | 1 / 2 / 3     | Key     |
| L1000 / 18          | - 1 SV72 / 24 / V - |             |             | - EXIAG / PED | Example |

Black = not possible according to Atex / Blue = possible according to Atex Exia / Blue<sup>1</sup> = possible according to Atex Exia and Exd / Black<sup>1</sup> = possible according to Atex Exd

# Magnetic Float Level Transmitter / Type key

## Code 6

Key 4  
... / ... / ... / ... -  
**Temperature measuring range**

|                  |                              |
|------------------|------------------------------|
| 050 <sup>1</sup> | 0°C ... 50°C / 4 ... 20 mA   |
| 100 <sup>1</sup> | 0°C ... 100°C / 4 ... 20 mA  |
| 150              | 0°C ... 150°C / 4 ... 20 mA  |
| 200              | 0°C ... 200°C / 4 ... 20 mA  |
| 000              | ...°C ... ..°C / 4 ... 20 mA |

## Code 7

Key 1  
... / ... / ... / ... / ... -  
**Length of instrument / Centre distance**

Key 2  
... / ... / ... / ... / ... -  
**Guide tube diameter ( material quality )**

Key 3  
... / ... / ... / ... / ... -  
**Bypass chamber material quality**

|                   |  |                 |   |                   |  |
|-------------------|--|-----------------|---|-------------------|--|
| L... <sup>1</sup> | Length of instrument in mm<br>( Key 3 - 5 not applicable ) | 11 <sup>1</sup> | Ø 11 mm ( VEEC / VPFA )                             | V <sup>1</sup>    | Stainless steel  |
| M... <sup>1</sup> | Centre distance in mm ( Chamber )                          | 12 <sup>1</sup> | Ø 12 mm ( V / VP / M / TI / HC / PA / P / PP / PF ) | VP <sup>1</sup>   | Stainless steel electropolished / Ra ca. 0,8µm<br>( not attestable ) |
|                   |  | 14 <sup>1</sup> | Ø 14 mm ( V / VP / M / TI )                         |                   |  |
|                   |  | 16 <sup>1</sup> | Ø 16 mm ( V / VP / P / PP / PF )                    | TI <sup>1</sup>   | Titanium   |
|                   |  | 17 <sup>1</sup> | Ø 17 mm ( VEEC / VPFA )                             | HC <sup>1</sup>   | Alloy C  |
|                   |  | 18 <sup>1</sup> | Ø 18 mm ( V / VP / TI / HC )                        | VEEC <sup>1</sup> | Stainless steel ECTFE coated   |
|                   |  | 20 <sup>1</sup> | Ø 20 mm ( P / PP / PF )                             | VPFA <sup>1</sup> | Stainless steel PFA coated   |
|                   |  | 40 <sup>1</sup> | Ø 40 mm ( V / VP )                                  | P                 | PVC  |
|                   |  |                 |   | PP                | Polypropylene  |
|                   |  |                 |   | PF                | PVDF   |

## Code 7

Key 4  
... / ... / ... / ... / ... -  
**Bypass chamber outside diameter**

Key 5  
... / ... / ... / ... / ... -  
**Bypass chamber wall thickness**

|                  |                                     |     |                                     |
|------------------|-------------------------------------|-----|-------------------------------------|
| 60 <sup>1</sup>  | Ø 60.30 mm ( V / VP / TI )          | ... | Bypass chamber wall thickness in mm |
| 61 <sup>1</sup>  | Ø 60.33 mm ( V / VP / HC )          |     |                                     |
| 63               | Ø 63.00 mm ( P / PP / PF )          |     |                                     |
| 63 <sup>1</sup>  | Ø 63.50 mm ( V / VP / VEEC / VPFA ) |     |                                     |
| 73 <sup>1</sup>  | Ø 73.03 mm ( V / VP )               |     |                                     |
| 88 <sup>1</sup>  | Ø 88.90 mm ( V / VP )               |     |                                     |
| 114 <sup>1</sup> | Ø 114.30 mm ( V / VP )              |     |                                     |

## Code 8

Key 1  
... / ... / ... / ... / ... -  
**Number of floats**

Key 1  
... / ... / ... / ... / ... -  
**Float**

Key 3  
... / ... / ... / ... / ... -  
**Inner bore of float**

|     |                  |     |                                     |     |                                     |
|-----|------------------|-----|-------------------------------------|-----|-------------------------------------|
| ... | Number of floats | ... | Acc. to float table on page 48 - 51 | ... | Acc. to float table on page 48 - 51 |
|-----|------------------|-----|-------------------------------------|-----|-------------------------------------|

## Code 8

Key 4  
... / ... / ... / ... / ... -  
**Magnetic system**

... Acc. to float table on page 48 - 51

## Example

|                |                |                   |         |           |              |                         |
|----------------|----------------|-------------------|---------|-----------|--------------|-------------------------|
| <b>Code</b>    | 1              | 2                 | 3       | 4         | 5            | 6                       |
| <b>Key</b>     | 1 / 2 / 3 -    | 1.1 / 1.2 / 1.3 - | 1 -     | 1 / 2 -   | 1 / 2 / 3 -  | 1 / 2 / 3 / 4 -         |
| <b>Example</b> | ALE / V / FE - | 80 / 16 / B1 -    | TP43B - | V / K15 - | U / R / TO - | 1 / TFA2 / TPAT / 050 - |

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Code 9

| Key 1<br>... / ... / ... -<br><b>Additional design</b>                         | Key 2<br>... / ... / ... -<br><b>Instruction for installation</b>  | Key 3<br>... / ... / ... -<br><b>Adjusting mechanism</b>  |
|--|--|---|
| FG <sup>1</sup> Guide tube in flexible design<br>WG <sup>1</sup> Angled design | GU <sup>1</sup> Installation from bottom site<br>HH <sup>1</sup> Process connection of displacer side-side<br>HV <sup>1</sup> Process connection of displacer top side - bottom Vertical | VE Adjustable version with cutting ring union ( only one time positioning possible on ATEX 94/9/EC applications ) |

Code 10

| Key 1<br>... / ... / ... -<br><b>Length of cable</b> | Key 2<br>... / ... / ... -<br><b>Connection cable</b>  | Key 3<br>... / ... / ... -<br><b>Connection cable option</b>   |
|--|--|--|
| ... Length of cable in meter                         | PVC <sup>1</sup> PVC connection cable<br>PVCB <sup>1</sup> PVC connection cable with blue coating<br>SIL <sup>1</sup> Silicone connection cable<br>PUR <sup>1</sup> PUR connection cable<br>RAD <sup>1</sup> Radox connection cable<br>FTEF <sup>1</sup> Teflon strands<br>FPVC <sup>1</sup> PVC strands | KA <sup>1</sup> Shielded<br>KB <sup>1</sup> Shielded / oil-resistant<br>KC <sup>1</sup> Shielded / oil-resistant / halogen-free<br>KD <sup>1</sup> Oil-resistant<br>KE <sup>1</sup> Oil-resistant / halogen-free<br>KF <sup>1</sup> Halogen-free |

Code 11

| Key 1<br>... / ... / ... -<br><b>Approvals / 1</b>   | Key 2<br>... / ... / ... -<br><b>Approvals / 2</b>  | Key 3<br>... / ... / ... -<br><b>Approvals / 3</b>  |
|--|---|---|
| EXIAG Acc. to Exia, atmosphere gas<br>EXIAGD Acc. to Exia, atmosphere gas and dust<br>EXDG <sup>1</sup> Acc. to Exd, atmosphere gas<br>EXDGD <sup>1</sup> Acc. to Exd, atmosphere gas and dust<br>EXIADG <sup>1</sup> Acc. to Exia and Exd, atmosphere gas<br>EXIADGD <sup>1</sup> Acc. to Exia and Exd, atmosphere gas and dust | PEDII <sup>1</sup> Acc. to PED97/23/EC category II<br>PEDIV <sup>1</sup> Acc. to PED97/23/EC category IV<br>PEDIWW <sup>1</sup> Acc. to PED 97/23/EC, category IV and approval federal water act §19<br>W <sup>1</sup> Approval federal water act §19 | 3A <sup>1</sup> Approval 3A Sanitary Standard<br>GL <sup>1</sup> Approval Germanischer Lloyd<br>BV <sup>1</sup> Approval Bureau Veritas<br>ABS <sup>1</sup> Approval American Bureau of Shipping<br>GOST <sup>1</sup> Approval GOST |

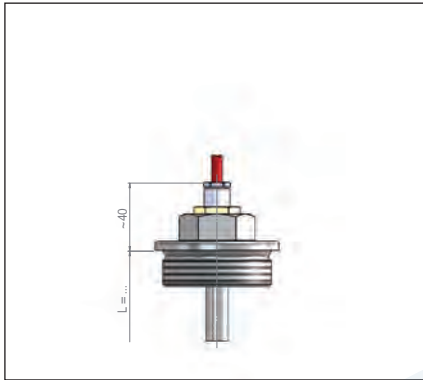


Example

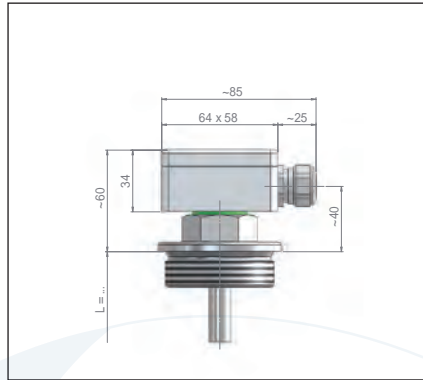
| 7                   | 8                   | 9           | 10          | 11            | Code    |
|---------------------|---------------------|-------------|-------------|---------------|---------|
| 1 / 2 / 3 / 4 / 5 - | 1 / 2 / 3 / 4 -     | 1 / 2 / 3 - | 1 / 2 / 3 - | 1 / 2 / 3     | Key     |
| L1000 / 18          | - 1 SV72 / 24 / V - |             |             | - EXIAG / PED | Example |

Black = not possible according to Atex / Blue = possible according to Atex Exia / Blue<sup>1</sup> = possible according to Atex Exia and Exd / Black<sup>1</sup> = possible according to Atex Exd

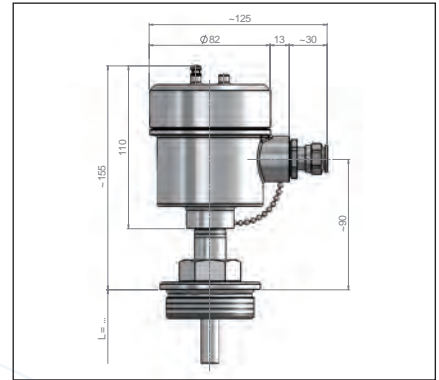
## Electrical connection



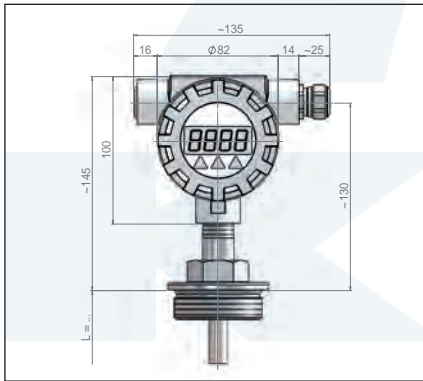
Connection type: K  
 Material quality: According as cable type  
 Cable entry: PG or metric  
 Ingress protection class: IP 55 ( optional IP 68 )  
 Ambient temperature: -40°C ... 200°C



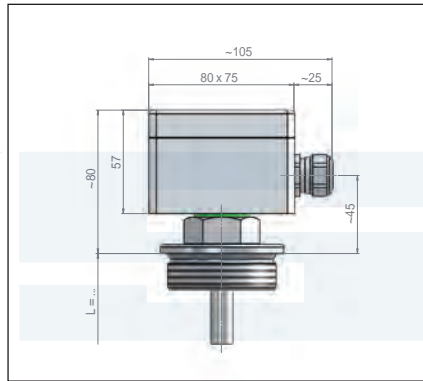
Connection type: ALE  
 Material quality: Aluminium coated RAL 7001  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 100°C



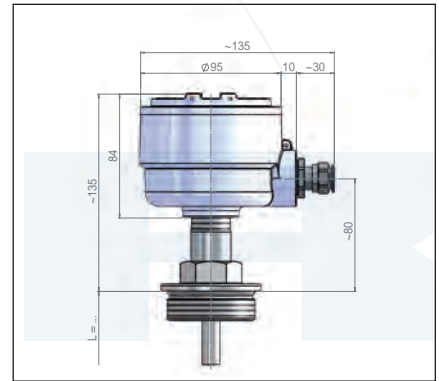
Connection type: AVA / AVDA ( Exd )  
 Material quality: Stainless steel A4 ( SS316 )  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 67 / ( Exd / IP68 )  
 Ambient temperature: -40°C ... 85°C



Connection type: DAALA  
 Material quality: Aluminium  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 60°C



Connection type: ALF  
 Material quality: Aluminium coated RAL 7001  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 100°C



Connection type: ALDA ( Exd )  
 Material quality: Aluminium coated RAL 9006  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 68  
 Ambient temperature: -40°C ... 100°C

## Approvals / Certificates



### ATEX\*

II 1/2G Ex ia c IIC T6 - T4  
 II 1/2G Ex d ia c IIC T6 - T4

II 1/2G Ex ia c IIC T6 - T3 bzw. Ex d ia c IIC T6 - T4  
 II 2D Ex tD A21 c IP6\* T80°C - T190°C bzw. T125

II 2G Ex d c IIC T6 - T4

Liquid temperature Exia max. 180°C / Exd max. 120°C

|   |                               |                               |                              |
|---|-------------------------------|-------------------------------|------------------------------|
| Type of protection intrinsic safety Ex ia IIC switch bzw. temperature switch    | $I_i \leq 100 \text{ mA}$     |                               |                              |
| Type of protection intrinsic safety Ex ia IIC temperature probe                 | $U_i \leq 28 \text{ V}$       | $I_i \leq 100 \text{ mA}$     | $P_i \leq 700 \text{ mW}$    |
| Type of protection intrinsic safety Ex ia IIC with option /N ( NAMUR EN 60947 ) | $U_i \leq 15 \text{ VDC}$     | $I_i \leq 60 \text{ mA}$      |                              |
| Type of protection „moulding“   | $U_N \leq 250 \text{ VDC/AC}$ | $P_{SN} \leq 50 \text{ W/WA}$ | $P_{FN} \leq 700 \text{ mW}$ |
| Type of protection „moulding“ with option /N ( NAMUR EN 60947 )                 | $U_N \leq 15 \text{ VDC}$     | $I_N \leq 60 \text{ mA}$      |                              |
| Type of protection „moulding“ with option /R22 ( resistor )                     | $U_N \leq 250 \text{ VDC/AC}$ | $I_N \leq 100 \text{ mA}$     |                              |

Further electrical connections page 52 - 54  
 Further process connection according to type key page 10  
 Further floats page 48 - 51

The magnetic float level transmitter are based on a modular design and can be arranged individually.

### Type key page 10 - 13

\* = The approval is dependent on the equipment combination



Type

K/V/E-3/8-V/K..-L../12-SVK44/15/V-../PVC

K/V/E-3/8-V/K..-L../12-SV52/15/V-../SIL

|                           |   |   |
|---------------------------|---|---|
| Material quality:         | 1.4404 / 1.4435 / 1.4571 (316L / 316Ti) | 1.4404 / 1.4435 / 1.4571 (316L / 316Ti) |
| Electrical connection:    | PVC connection cable                    | Silicone connection cable               |
| Process connection:       | G 3/8"                                  | G 3/8"                                  |
| Guide tube:               | Ø 12 mm ( Accuracy type K5.. Ø 14 mm )  | Ø 12 mm ( Accuracy type K5.. Ø 14 mm )  |
| Length of instrument:     | ≤ 5000 mm*                              | ≤ 5000 mm*                              |
| Float:                    | SVK44/15/V Ø 44 mm                      | SV52/15/V Ø 52 mm                       |
| Specific gravity:         | ≥ 800 kg/m³                             | ≥ 700 kg/m³                             |
| Design pressure:          | -1 bar ... 25 bar                       | -1 bar ... 40 bar                       |
| Design temperature:       | -20°C ... 80°C                          | -40°C ... 180°C                         |
| Ingress protection class: | IP 55 ( optional IP 68 )                | IP 55 ( optional IP 68 )                |
| Mounting position:        | Vertical +/-30°                         | Vertical +/-30°                         |

Accuracy

|   |                  |                  |
|---|------------------|------------------|
| Type K.. (-30°C ... 130°C) Accuracy:    | 5 / 10 / 12.7 mm | 5 / 10 / 12.7 mm |
| Type K..HTF (-30°C ... 200°C) Accuracy: | -                | 5 / 10 / 15 mm   |
| Type K..HT (-40°C ... 250°C) Accuracy:  | -                | 5 / 10 / 15 mm   |

Option control unit / Page 55

|               |   |   |
|---------------|---|---|
| Control unit: | - Programmable<br>- Hart-programmable<br>- Profibus PA<br>- Foundation Fieldbus | - Programmable<br>- Hart-programmable<br>- Profibus PA<br>- Foundation Fieldbus |
|---------------|---|---|

Option temperature probe / Page 56

|                    |                  |                  |
|--------------------|------------------|------------------|
| Temperature probe: | Pt-100 / Pt-1000 | Pt-100 / Pt-1000 |
| Norm:              | IEC 751 Kl.B     | IEC 751 Kl.B     |

Option temperature switch / Page 56

|                        |                                  |                                  |
|------------------------|----------------------------------|----------------------------------|
| Function:              | Normally closed or normally open | Normally closed or normally open |
| Switching capacity:    | Page 56                          | Page 56                          |
| Accuracy / Hysteresis: | Page 56                          | Page 56                          |
| Temperature / Grading: | Page 56                          | Page 56                          |

Minimum measures

K/V/E-3/8-V/K..-L../12-SVK44/15/V-../PVC  
L1: ≥ 50 mm  
U: 45 mm

Approvals / Certificates

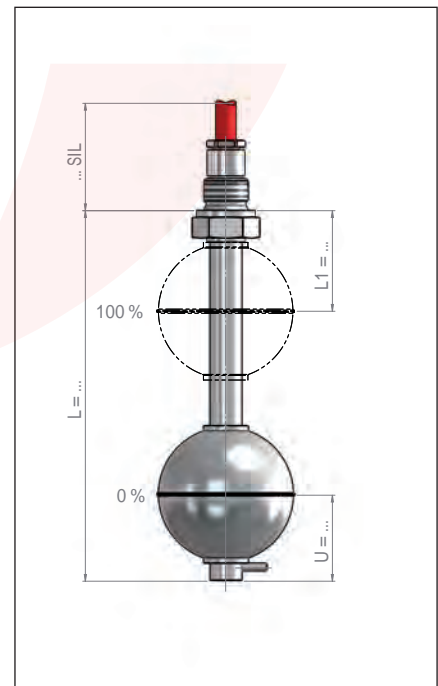
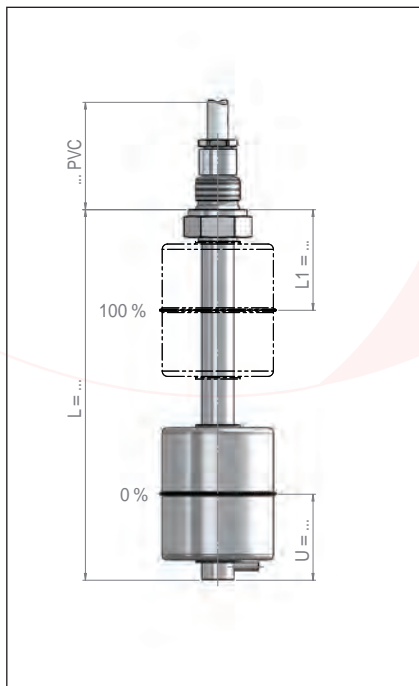
ATEX / PED / GOST / GL / BV / ABS / WHG

Minimum measures

K/V/E-3/8-V/K..-L../12-SV52/15/V-../SIL  
L1: ≥ 55 mm  
U: 45 mm

Approvals / Certificates

ATEX / PED / GOST / GL / BV / ABS / WHG



The magnetic float level transmitter are based on a modular design and can be arranged individually.

Type key page 10 - 13

\* ATEX-design = if length of instrument ≥ 4000 mm please choose different material quality for guide tube and float

# Magnetic Float Level Transmitter / Stainless steel

Type

ALE/V/R-1½-V/K..-L../12-SVK44/15/V

ALE/V/R-2-V/K..-L../12-SV52/15/V

|                           |  |  |
|---------------------------|--|--|
| Material quality:         | 1.4404 / 1.4435 / 1.4571 ( 316L / 316Ti )      | 1.4404 / 1.4435 / 1.4571 ( 316L / 316Ti )      |
| Electrical connection:    | ALE Aluminium terminal box                     | ALE Aluminium terminal box                     |
| Process connection:       | G 1½"  | G 2"   |
| Guide tube:               | Ø 12 mm ( Accuracy type K5.. Ø 14 mm )         | Ø 12 mm ( Accuracy type K5.. Ø 14 mm )         |
| Length of instrument:     | ≤ 5000 mm*                                     | ≤ 5000 mm*                                     |
| Float:                    | SVK44/15/V Ø 44 mm                             | SV52/15/V Ø 52 mm                              |
| Specific gravity:         | ≥ 800 kg/m³                                    | ≥ 700 kg/m³                                    |
| Design pressure:          | -1 bar ... 25 bar ( depending on temperature ) | -1 bar ... 40 bar ( depending on temperature ) |
| Design temperature:       | See accuracy                                   | See accuracy                                   |
| Ingress protection class: | IP 65  | IP 65  |
| Mounting position:        | Vertical +/-30°                                | Vertical +/-30°                                |

## Accuracy

|   |                       |                       |
|---|-----------------------|-----------------------|
| Type K.. ( -30°C ... 130°C ) Accuracy:    | 5 / 10 / 12.7 / 15 mm | 5 / 10 / 12.7 / 15 mm |
| Type K..HTF ( -30°C ... 200°C ) Accuracy: | 5 / 10 / 15 mm        | 5 / 10 / 15 mm        |
| Type K..HT ( -40°C ... 250°C ) Accuracy:  | 5 / 10 / 15 mm        | 5 / 10 / 15 mm        |

## Option control unit / Page 55

|               |   |   |
|---------------|---|---|
| Control unit: | - Programmable<br>- Hart-programmable<br>- Profibus PA<br>- Foundation Fieldbus | - Programmable<br>- Hart-programmable<br>- Profibus PA<br>- Foundation Fieldbus |
|---------------|---|---|

## Option temperature probe / Page 56

|                    |                  |                  |
|--------------------|------------------|------------------|
| Temperature probe: | Pt-100 / Pt-1000 | Pt-100 / Pt-1000 |
| Norm:              | IEC 751 Kl.B     | IEC 751 Kl.B     |

## Option temperature switch / Page 56

|                        |                                  |                                  |
|------------------------|----------------------------------|----------------------------------|
| Function:              | Normally closed or normally open | Normally closed or normally open |
| Switching capacity:    | Page 56                          | Page 56                          |
| Accuracy / Hysteresis: | Page 56                          | Page 56                          |
| Temperature / Grading: | Page 56                          | Page 56                          |

## Minimum measures

ALE/V/R-1½-V/K..-L../12-SVK44/15/V  
L1: ≥ 50 mm  
U: 45 mm

## Approvals / Certificates

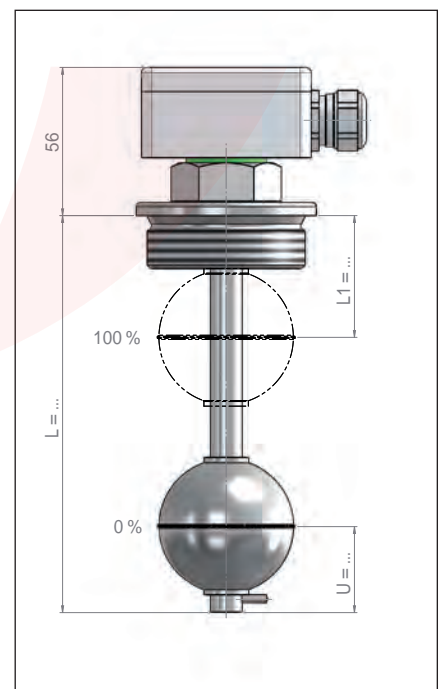
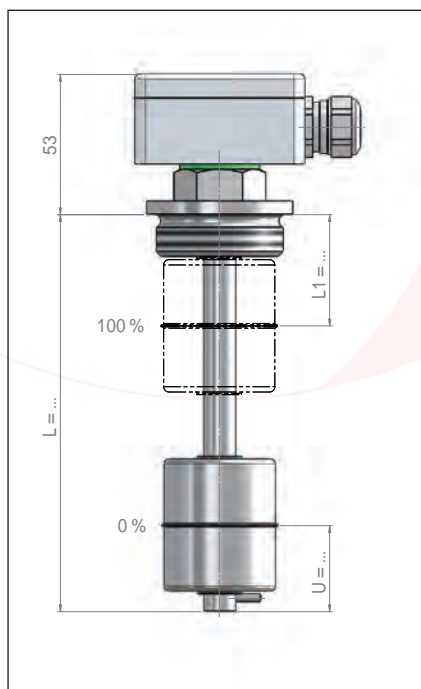
ATEX / PED / GOST / GL / BV / ABS / WHG

## Minimum measures

ALE/V/R-2-V/K..-L../12-SV52/15/V  
L1: ≥ 55 mm  
U: 45 mm

## Approvals / Certificates

ATEX / PED / GOST / GL / BV / ABS / WHG



The Magnetic Float Level Transmitter are based on a modular design and can be arranged individually.

**Type key page 10 - 13**

\* ATEX-design = if length of instrument ≥ 4000 mm please choose different material quality for guide tube and float

|             |   |  |
|-------------|---|--|
| <b>Type</b> | <b>ALE/V/FE-80/16/B1-V/K..-L../18-SV72/24/V</b> | <b>ALE/V/FE-80/16/B1-V/K..-L../40-SV300/56/R</b> |
|-------------|---|--|

|                           |  |   |
|---------------------------|--|---|
| Material quality:         | 1.4404 / 1.4435 / 1.4571 (316L / 316Ti)        | 1.4404 / 1.4435 / 1.4571 (316L / 316Ti) |
| Electrical connection:    | ALE Aluminium terminal box                     | ALE Aluminium terminal box              |
| Process connection:       | Flange EN DN 80 / PN 16 / Form B1              | Flange EN DN 80 / PN 16 / Form B1       |
| Guide tube:               | Ø 18 mm  | Ø 40 mm                                 |
| Length of instrument:     | ≤ 6000 mm*                                     | ≤ 10000 mm*                             |
| Float:                    | SV72/24/V Ø 72 mm                              | SV300/56/R Ø 300 mm                     |
| Specific gravity:         | ≥ 620 kg/m <sup>3</sup>                        | ≥ 500 kg/m <sup>3</sup>                 |
| Design pressure:          | -1 bar ... 16 bar ( depending on temperature ) | -1 bar ... 3 bar                        |
| Design temperature:       | See accuracy                                   | -40°C ... +200°C                        |
| Ingress protection class: | IP 65  | IP 65                                   |
| Mounting position:        | Vertical +/-30°                                | Vertical +/-30°                         |

**Accuracy**

|   |                       |                       |
|---|-----------------------|-----------------------|
| Type K.. (-30°C ... 130°C) Accuracy:    | 5 / 10 / 12.7 / 15 mm | 5 / 10 / 12.7 / 15 mm |
| Type K..HTF (-30°C ... 200°C) Accuracy: | 5 / 10 / 15 mm        | 5 / 10 / 15 mm        |
| Type K..HT (-40°C ... 250°C) Accuracy:  | 5 / 10 / 15 mm        | 5 / 10 / 15 mm        |

**Option control unit / Page 55**

|               |   |   |
|---------------|---|---|
| Control unit: | - Programmable<br>- Hart-programmable<br>- Profibus PA<br>- Foundation Fieldbus | - Programmable<br>- Hart-programmable<br>- Profibus PA<br>- Foundation Fieldbus |
|---------------|---|---|

**Option temperature probe / Page 56**

|                    |                  |                  |
|--------------------|------------------|------------------|
| Temperature probe: | Pt-100 / Pt-1000 | Pt-100 / Pt-1000 |
| Norm:              | IEC 751 Kl.B     | IEC 751 Kl.B     |

**Option temperature switch / Page 56**

|                        |                                  |                                  |
|------------------------|----------------------------------|----------------------------------|
| Function:              | Normally closed or normally open | Normally closed or normally open |
| Switching capacity:    | Page 56                          | Page 56                          |
| Accuracy / Hysteresis: | Page 56                          | Page 56                          |
| Temperature / Grading: | Page 56                          | Page 56                          |

**Minimum measures**

ALE/V/FE-80/16/B1-V/K..-L../18-SV72/24/V  
 L1: ≥ 60 mm  
 U: 60 mm

**Approvals / Certificates**

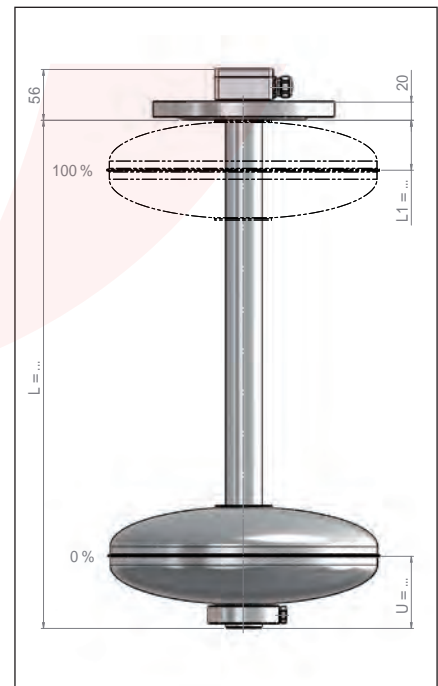
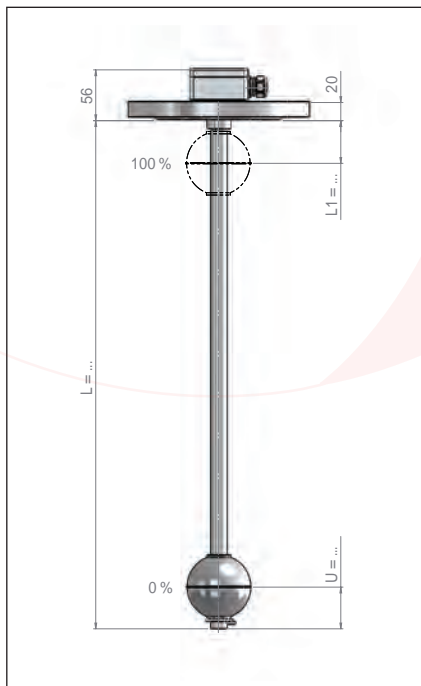
ATEX / PED / GOST / GL / BV / ABS / WHG

**Minimum measures**

ALE/V/FE-80/16/B1-V/K..-L../40-SV300/56/R  
 L1: ≥ 70 mm  
 U: 90 mm

**Approvals / Certificates**

ATEX / PED / GOST / GL / BV / ABS / WHG



The Magnetic Float Level Transmitter are based on a modular design and can be arranged individually.

**Type key page 10 - 13**

\* ATEX-design = if length of instrument ≥ 4000 mm please choose different material quality for guide tube and float

# Magnetic Float Level Transmitter / Stainless steel - flexible

## Type

**ALE/V/FE-80/16/B1-V/K12.7-L../16-SV72/24/V-FG**

**ALE/V/R-1-V/K12.7-L../16-SV72/24/V-FG**

|                           |  |   |
|---------------------------|--|---|
| Material quality:         | 1.4404 / 1.4435 / 1.4571 ( 316L / 316Ti )      | 1.4404 / 1.4435 / 1.4571 ( 316L / 316Ti ) |
| Electrical connection:    | ALE Aluminium terminal box                     | ALE Aluminium terminal box                |
| Process connection:       | Flange EN DN 80 / PN 16 / Form B1              | G 1"                                      |
| Guide tube:               | Ø 16 mm  | Ø 16 mm                                   |
| Length of instrument:     | ≤ 10000 mm*                                    | ≤ 10000 mm*                               |
| Float:                    | SV72/24/V Ø 72 mm                              | SV72/24/V Ø 72 mm                         |
| Specific gravity:         | ≥ 620 kg/m <sup>3</sup>                        | ≥ 620 kg/m <sup>3</sup>                   |
| Design pressure:          | -1 bar ... 16 bar ( depending on temperature ) | -1 bar ... 25 bar                         |
| Design temperature:       | See accuracy                                   | See accuracy                              |
| Ingress protection class: | IP 65  | IP 65                                     |
| Mounting position:        | Vertical +/-30°                                | Vertical +/-30°                           |

## Accuracy

|   |         |         |
|---|---------|---------|
| Type K.. ( -30°C ... 130°C ) Accuracy:    | 12.7 mm | 12.7 mm |
| Type K..HTF ( -30°C ... 200°C ) Accuracy: | -       | -       |
| Type K..HT ( -40°C ... 250°C ) Accuracy:  | -       | -       |

## Option control unit / Page 55

|               |   |   |
|---------------|---|---|
| Control unit: | - Programmable<br>- Hart-programmable<br>- Profibus PA<br>- Foundation Fieldbus | - Programmable<br>- Hart-programmable<br>- Profibus PA<br>- Foundation Fieldbus |
|---------------|---|---|

## Option temperature probe / Page 56

|                    |                  |                  |
|--------------------|------------------|------------------|
| Temperature probe: | Pt-100 / Pt-1000 | Pt-100 / Pt-1000 |
| Norm:              | IEC 751 Kl.B     | IEC 751 Kl.B     |

## Option temperature switch / Page 56

|                        |                                  |                                  |
|------------------------|----------------------------------|----------------------------------|
| Function:              | Normally closed or normally open | Normally closed or normally open |
| Switching capacity:    | Page 56                          | Page 56                          |
| Accuracy / Hysteresis: | Page 56                          | Page 56                          |
| Temperature / Grading: | Page 56                          | Page 56                          |

## Minimum measures

ALE/V/FE-80/16/B1-V/K12.7-L../16-SV72/24/V-FG  
L1: ≥ 60 mm  
U: 60 mm

## Approvals / Certificates

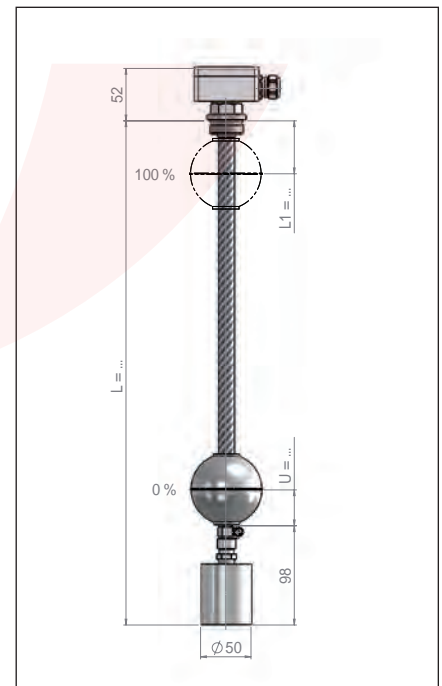
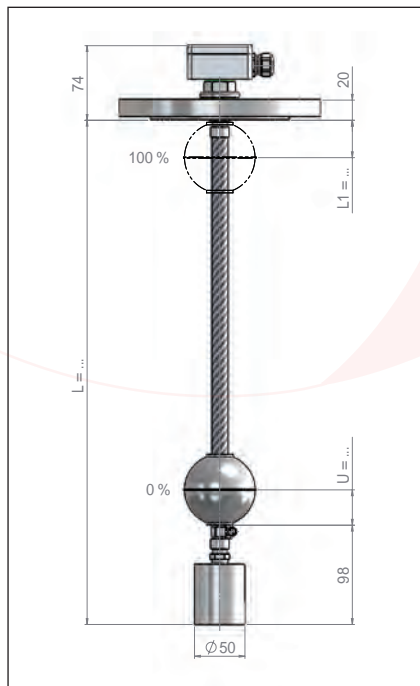
ATEX / PED / GOST

## Minimum measures

ALE/V/R-1-V/K12.7-L../16-SV72/24/V-FG  
L1: ≥ 60 mm  
U: 60 mm

## Approvals / Certificates

ATEX / PED / GOST



The Magnetic Float Level Transmitter are based on a modular design and can be arranged individually.

## Type key page 10 - 13

\* ATEX-design = if length of instrument ≥ 4000 mm please choose different material quality for guide tube and float

| Type                      | K/V/E-3/8-V/K..-L../12-SV52/15/V-WG-../SIL | ALE/V/FE-80/16/B1-V/K..-L../18-SV72/24/V-WG    |
|---------------------------|--|--|
| Material quality:         | 1.4404 / 1.4435 / 1.4571 (316L / 316Ti)    | 1.4404 / 1.4435 / 1.4571 (316L / 316Ti)        |
| Electrical connection:    | Silicone connection cable                  | ALE Aluminium terminal box                     |
| Process connection:       | G 3/8"                                     | Flange EN DN 80 / PN 16 / Form B1              |
| Guide tube:               | Ø 12 mm ( Accuracy type K5.. Ø 14 mm )     | Ø 18 mm  |
| Length of instrument:     | ≤ 3000 mm                                  | ≤ 6000 mm*                                     |
| Float:                    | SV52/15/V Ø 52 mm                          | SV72/24/V Ø 72 mm                              |
| Specific gravity:         | ≥ 700 kg/m <sup>3</sup>                    | ≥ 620 kg/m <sup>3</sup>                        |
| Design pressure:          | -1 bar ... 40 bar                          | -1 bar ... 16 bar ( depending on temperature ) |
| Design temperature:       | -40°C ... 180°C                            | See accuracy                                   |
| Ingress protection class: | IP 55 ( optional IP 68 )                   | IP 65  |
| Mounting position:        | Vertical +/-30°                            | Vertical +/-30°                                |

| Accuracy                                |                       |                       |
|---|-----------------------|-----------------------|
| Type K.. (-30°C ... 130°C) Accuracy:    | 5 / 10 / 12.7 / 15 mm | 5 / 10 / 12.7 / 15 mm |
| Type K..HTF (-30°C ... 200°C) Accuracy: | 5 / 10 / 15 mm        | 5 / 10 / 15 mm        |
| Type K..HT (-40°C ... 250°C) Accuracy:  | 5 / 10 / 15 mm        | 5 / 10 / 15 mm        |

| Option control unit / Page 55 |   |   |
|-------------------------------|---|---|
| Control unit:                 | - Programmable<br>- Hart-programmable<br>- Profibus PA<br>- Foundation Fieldbus | - Programmable<br>- Hart-programmable<br>- Profibus PA<br>- Foundation Fieldbus |

| Option temperature probe / Page 56 |                  |                  |
|------------------------------------|------------------|------------------|
| Temperature probe:                 | Pt-100 / Pt-1000 | Pt-100 / Pt-1000 |
| Norm:                              | IEC 751 Kl.B     | IEC 751 Kl.B     |

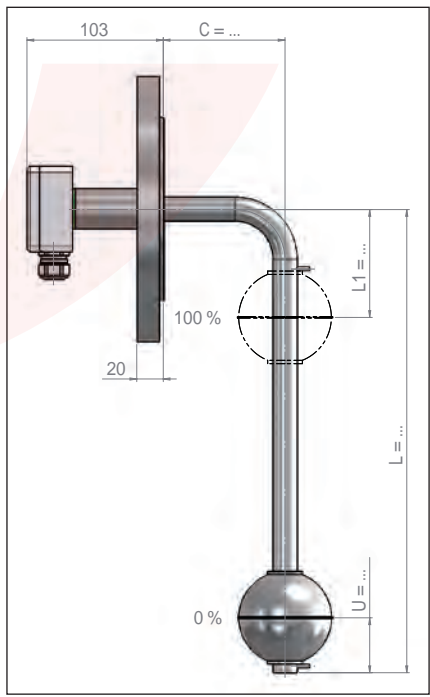
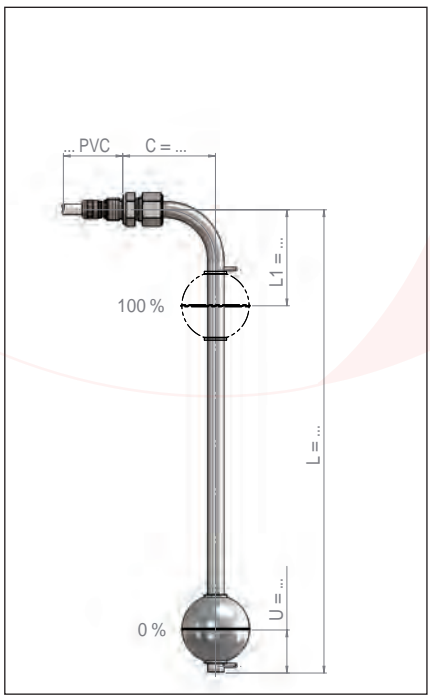
| Option temperature switch / Page 56 |                                  |                                  |
|-------------------------------------|----------------------------------|----------------------------------|
| Function:                           | Normally closed or normally open | Normally closed or normally open |
| Switching capacity:                 | Page 56                          | Page 56                          |
| Accuracy / Hysteresis:              | Page 56                          | Page 56                          |
| Temperature / Grading:              | Page 56                          | Page 56                          |

**Minimum measures**  
 K/V/E-3/8-V/K..-L../12-SV52/15/V-WG-../SIL  
 L1: ≥ 55 mm  
 U: 45 mm  
 C: ≥ 70 mm

**Approvals / Certificates**  
 ATEX / PED / GOST / GL / BV / ABS

**Minimum measures**  
 ALE/V/FE-80/16/B1-V/K..-L../18-SV72/24/V-WG  
 L1: ≥ 60 mm  
 U: 60 mm  
 C: ≥ 70 mm

**Approvals / Certificates**  
 ATEX / PED / GOST / GL / BV / ABS



The Magnetic Float Level Transmitter are based on a modular design and can be arranged individually.  
**Type key page 10 - 13**

\* ATEX-design = if length of instrument ≥ 4000 mm please choose different material quality for guide tube and float



# Magnetic Float Level Transmitter / Stainless steel - Displacer

## Type

**ALE/V/FE-25/16/B1-V/K..-M../12/V/60/2-SVK44/15/V-HH**

**ALE/V/FE-25/16/B1-V/K..-M../12/V/60/2-SVK44/15/V-HV**

Material quality:  
Electrical connection:  
Process connection:  
Bypass chamber:  
Centre distance:  
Float:  
Specific gravity:  
Design pressure:  
Design temperature:  
Ingress protection class:  
Mounting position:

1.4404 / 1.4435 / 1.4571 (316L / 316Ti)  
ALE Aluminium terminal box  
Flange EN DN 25 / PN 16 / Form B1  
Ø 60,30 mm  
≤ 1000 mm  
SVK44/15/V Ø 44 mm  
≥ 800 kg/m<sup>3</sup>  
-1 bar ... 16 bar ( depending on temperature )  
See accuracy  
IP 65  
Vertical +/-30°

1.4404 / 1.4435 / 1.4571 (316L / 316Ti)  
ALE Aluminium terminal box  
Flange EN DN 25 / PN 16 / Form B1  
Ø 60,30 mm  
≤ 1000 mm  
SVK44/15/V Ø 44 mm  
≥ 800 kg/m<sup>3</sup>  
-1 bar ... 16 bar ( depending on temperature )  
See accuracy  
IP 65  
Vertical +/-30°

## Accuracy

Type K.. (-30°C ... 130°C) Accuracy:  
Type K..HTF (-30°C ... 200°C) Accuracy:  
Type K..HT (-40°C ... 250°C) Accuracy:

5 / 10 / 12.7 / 15 mm  
5 / 10 / 15 mm  
5 / 10 / 15 mm

5 / 10 / 12.7 / 15 mm  
5 / 10 / 15 mm  
5 / 10 / 15 mm

## Option control unit / Page 55

Control unit:

- Programmable  
- Hart-programmable  
- Profibus PA  
- Foundation Fieldbus

- Programmable  
- Hart-programmable  
- Profibus PA  
- Foundation Fieldbus

## Option temperature probe / Page 56

Temperature probe:  
Norm:

Pt-100 / Pt-1000  
IEC 751 Kl.B

Pt-100 / Pt-1000  
IEC 751 Kl.B

## Option temperature switch / Page 56

Function:  
Switching capacity:  
Accuracy / Hysteresis:  
Temperature / Grading:

Normally closed or normally open  
Page 56  
Page 56  
Page 56

Normally closed or normally open  
Page 56  
Page 56  
Page 56

## Minimum measures

ALE/V/FE-25/16/B1-V/K..-M../12/V/60/2-SVK44/15/V-HH  
L1: ≥ 130 mm  
U: 45 mm

## Approvals / Certificates

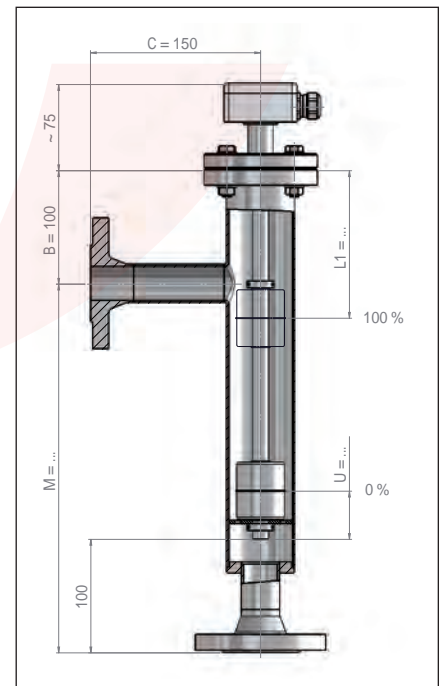
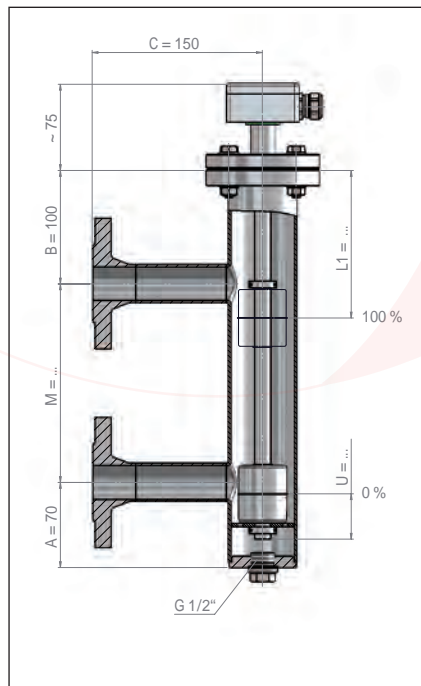
ATEX / PED / GOST / GL / BV / ABS

## Minimum measures

ALE/V/FE-25/16/B1-V/K..-M../12/V/60/2-SVK44/15/V-HV  
L1: ≥ 130 mm  
U: 45 mm

## Approvals / Certificates

ATEX / PED / GOST / GL / BV / ABS



The Magnetic Float Level Transmitter are based on a modular design and can be arranged individually.

**Type key page 10 - 13**

# Magnetic Float Level Transmitter / 3A Sanitary Standard

| Type                                       | K/V/E-3/8-V/K...-L../16-SV3A80/23/V-../SIL-3A                                   | AVA/V/BKN...-V/K...-L../16-SV3A80/23/V-3A                                       |
|--|---|---|
| Material quality:                          | 1.4404 / 1.4435 / 1.4571 (316L / 316Ti)**                                       | 1.4404 / 1.4435 / 1.4571 (316L / 316Ti)**                                       |
| Electrical connection:                     | Silicone connection cable   | Stainless steel terminal box  |
| Process connection:                        | G 3/8"  | Aseptic blind cone acc. to DIN 11851 w. groove nut                              |
| Guide tube:                                | Ø 16 mm   | Ø 16 mm   |
| Length of instrument:                      | ≤ 5000 mm*  | ≤ 5000 mm*  |
| Float:                                     | SV3A80/23/V Ø 80 mm   | SV3A80/23/V Ø 80 mm   |
| Specific gravity:                          | ≥ 750 kg/m <sup>3</sup>   | ≥ 750 kg/m <sup>3</sup>   |
| Design pressure:                           | -1 bar ... 40 bar   | -1 bar ... 6 bar ( depending on temperature )                                   |
| Design temperature:                        | -40°C ... 180°C   | See accuracy  |
| Ingress protection class:                  | IP 55 ( optional IP 68 )  | IP 67   |
| Mounting position:                         | Vertical +/-30°   | Vertical +/-30°   |
| <b>Accuracy</b>                            |   |   |
| Type K.. (-30°C ... 130°C) Accuracy:       | 5 / 10 / 12.7 / 15 mm   | 5 / 10 / 12.7 / 15 mm   |
| Type K..HTF (-30°C ... 200°C) Accuracy:    | 5 / 10 / 15 mm  | 5 / 10 / 15 mm  |
| Type K..HT (-40°C ... 250°C) Accuracy:     | 5 / 10 / 15 mm  | 5 / 10 / 15 mm  |
| <b>Option control unit / Page 55</b>       |   |   |
| Control unit:                              | - Programmable<br>- Hart-programmable<br>- Profibus PA<br>- Foundation Fieldbus | - Programmable<br>- Hart-programmable<br>- Profibus PA<br>- Foundation Fieldbus |
| <b>Option temperature probe / Page 56</b>  |   |   |
| Temperature probe:                         | Pt-100 / Pt-1000  | Pt-100 / Pt-1000  |
| Norm:                                      | IEC 751 Kl.B  | IEC 751 Kl.B  |
| <b>Option temperature switch / Page 56</b> |   |   |
| Function:                                  | Normally closed or normally open  | Normally closed or normally open  |
| Switching capacity:                        | Page 56   | Page 56   |
| Accuracy / Hysteresis:                     | Page 56   | Page 56   |
| Temperature / Grading:                     | Page 56   | Page 56   |

**Minimum measures**

K/V/E-3/8-V/K...-L../16-SV3A80/23/V-../SIL-3A  
L1: ≥ 50 mm  
U: 55 mm

**Approvals / Certificates**

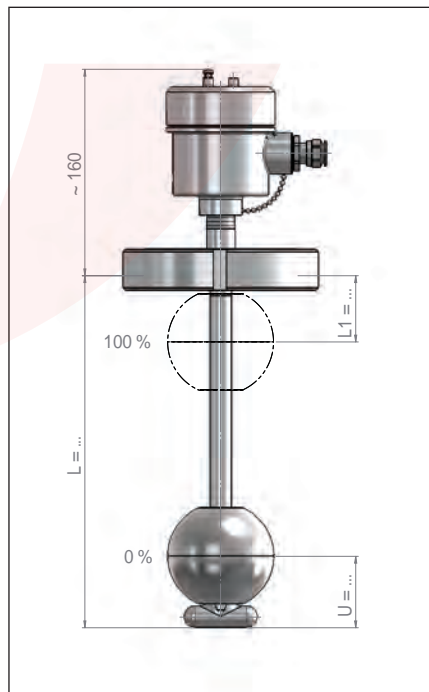
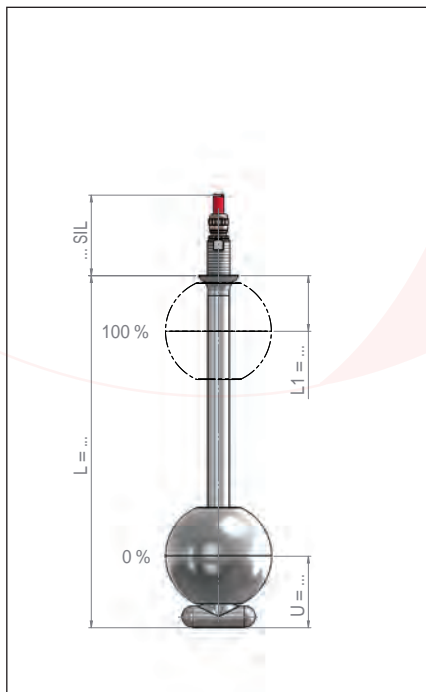
ATEX / PED / GOST / GL / BV / ABS / 3A

**Minimum measures**

AVA/V/BKN...-V/K...-L../16-SV3A80/23/V-3A  
L1: ≥ 50 mm  
U: 55 mm

**Approvals / Certificates**

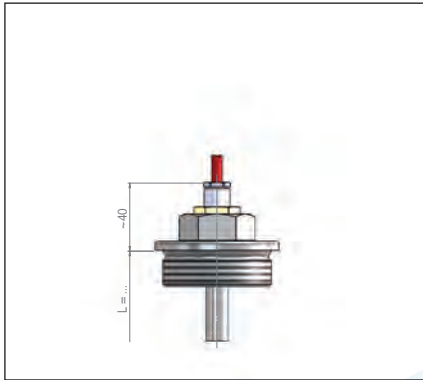
ATEX / PED / GOST / GL / BV / ABS / 3A



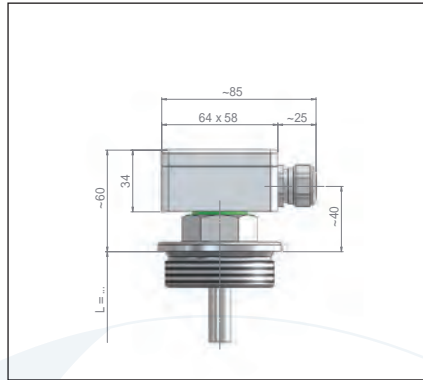
The Magnetic Float Level Transmitter are based on a modular design and can be arranged individually.  
**Type key page 10 - 13**

\* ATEX-design = if length of instrument ≥ 4000 mm please choose different material quality for guide tube and float  
 \*\* = Ra ≤ 0.4µm for all wetted parts

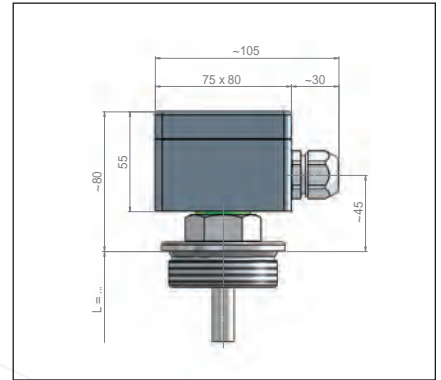
## Electrical connection



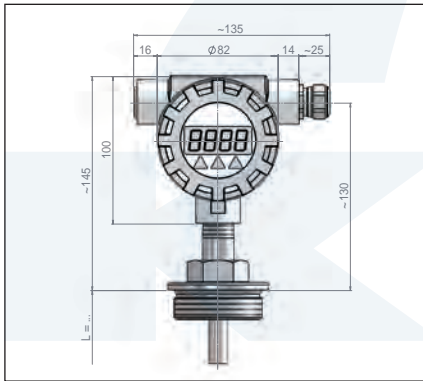
Connection type: K  
 Material quality: According as cable type  
 Cable entry: PG or metric  
 Ingress protection class: IP 55 ( optional IP 68 )  
 Ambient temperature: -40°C ... 200°C



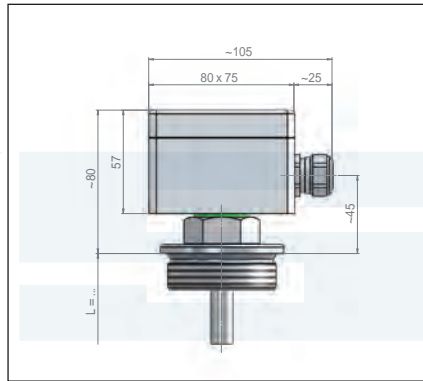
Connection type: ALE  
 Material quality: Aluminium coated RAL 7001  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 100°C



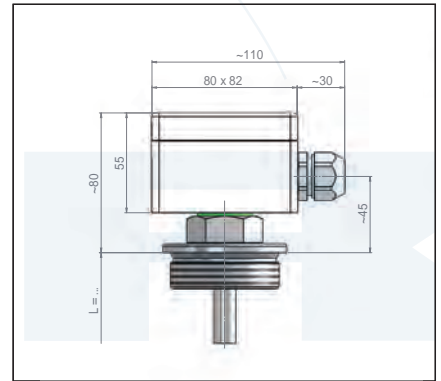
Connection type: APA / APB ( Ex )  
 Material quality: Polyester  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -10°C ... 100°C



Connection type: DAALA  
 Material quality: Aluminium  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 60°C



Connection type: ALF  
 Material quality: Aluminium coated RAL 7001  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 100°C



Connection type: ABA  
 Material quality: ABS  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -10°C ... 80°C

## Approvals / Certificates



Further electrical connections page 52 - 54  
 Further process connection according to type key page 10  
 Further floats page 48 - 51

The magnetic float level transmitter are based on a modular design and can be arranged individually.  
**Type key page 10 - 13**

| Type                                      | K/ME/E-3/8-ME/K..-L../12-SB40/15/R../PVC                                       | ALE/ME/R-1½-ME/K..-L../12-SVK44/15/V   |
|---|--|--|
| Material quality:                         | Brass ( Float Buna )   | Brass ( Float Stainless steel )  |
| Electrical connection:                    | PVC connection cable   | ALE Aluminium terminal box   |
| Process connection:                       | G 3/8"   | G 1½"  |
| Guide tube:                               | Ø 12 mm ( Accuracy type K5.. Ø 14 mm )   | Ø 12 mm ( Accuracy type K5.. Ø 14 mm )   |
| Length of instrument:                     | ≤ 5000 mm  | ≤ 5000 mm  |
| Float:                                    | SB40/15/R Ø 40 mm  | SVK44/15/V Ø 44 mm   |
| Specific gravity:                         | ≥ 700 kg/m³  | ≥ 800 kg/m³  |
| Design pressure:                          | -1 bar ... 6 bar   | -1 bar ... 25 bar  |
| Design temperature:                       | -10°C ... 80°C   | -10°C ... 150°C  |
| Ingress protection class:                 | IP 55 ( optional IP 68 )   | IP 65  |
| Mounting position:                        | Vertical +/-30°  | Vertical +/-30°  |
| Accuracy                                  |  |  |
| Type K.. ( -30°C ... 130°C ) Accuracy:    | 5 / 10 / 12.7 / 15 mm  | 5 / 10 / 12.7 / 15 mm  |
| Type K..HTF ( -30°C ... 200°C ) Accuracy: | -  | 5 / 10 / 15 mm   |
| Type K..HT ( -40°C ... 250°C ) Accuracy:  | -  | -  |
| Option control unit / Page 55             |  |  |
| Control unit:                             | - Programmable<br>- Hart-programmable<br>- Profibus PA<br>- Fondation Fieldbus | - Programmable<br>- Hart-programmable<br>- Profibus PA<br>- Fondation Fieldbus |
| Option temperature probe / Page 56        |  |  |
| Temperature probe:                        | Pt-100 / Pt-1000   | Pt-100 / Pt-1000   |
| Norm:                                     | IEC 751 Kl.B   | IEC 751 Kl.B   |
| Option temperature switch / Page 56       |  |  |
| Function:                                 | Normally closed or normally open   | Normally closed or normally open   |
| Switching capacity:                       | Page 56  | Page 56  |
| Accuracy / Hysteresis:                    | Page 56  | Page 56  |
| Temperature / Grading:                    | Page 56  | Page 56  |

**Minimum measures**

K/ME/E-3/8-ME/K..-L../12-SB40/15/R../PVC  
L1: ≥ 30 mm  
U: 50 mm

**Approvals / Certificates**

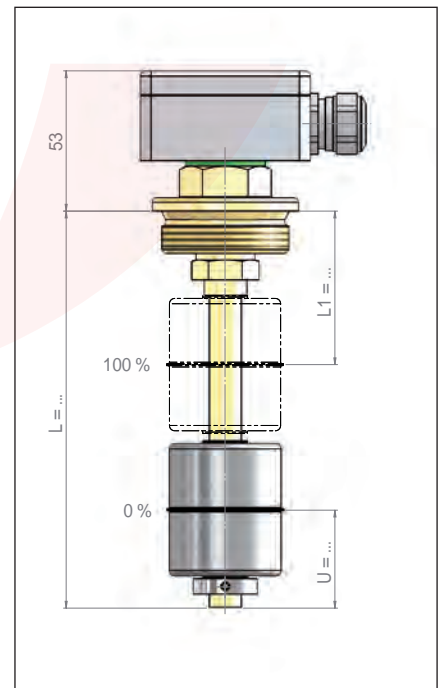
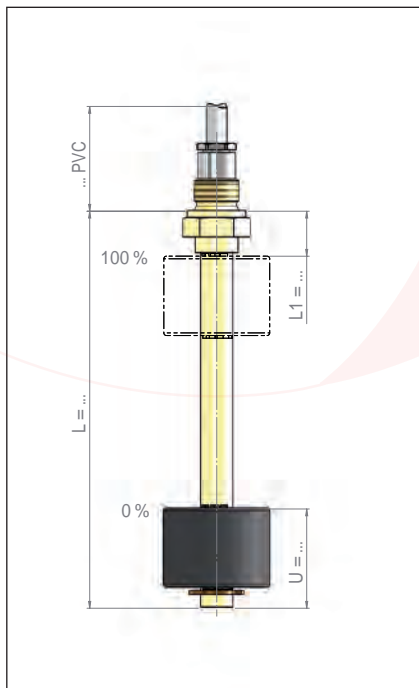
PED / GOST / GL / BV / ABS

**Minimum measures**

ALE/ME/R-1½-ME/K..-L../12-SVK44/15/V  
L1: ≥ 65 mm  
U: 45 mm

**Approvals / Certificates**

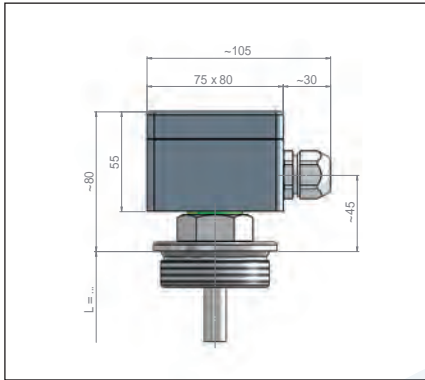
PED / GOST / GL / BV / ABS



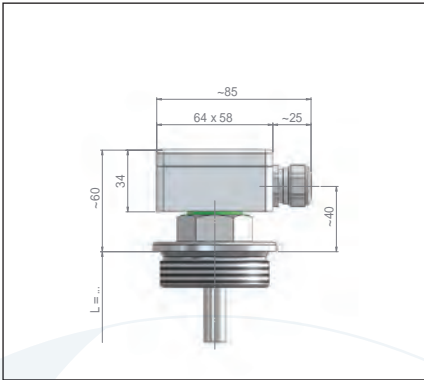
The magnetic float level transmitter are based on a modular design and can be arranged individually.

**Type key page 10 - 13**

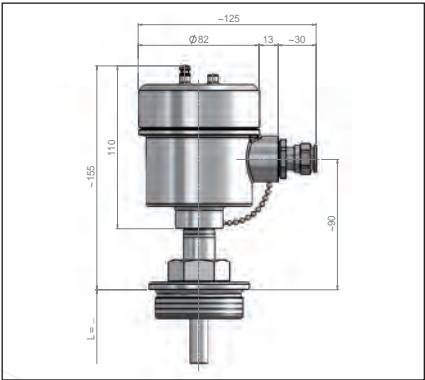
Electrical connection



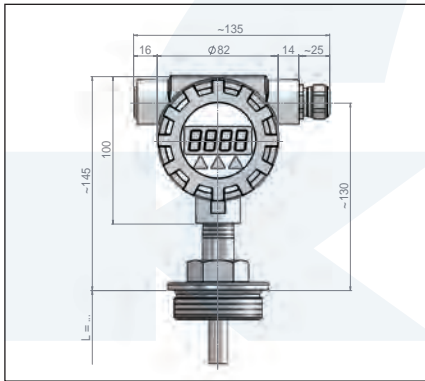
Connection type: APA / APB ( Ex )  
 Material quality: Polyester  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -10°C ... 100°C



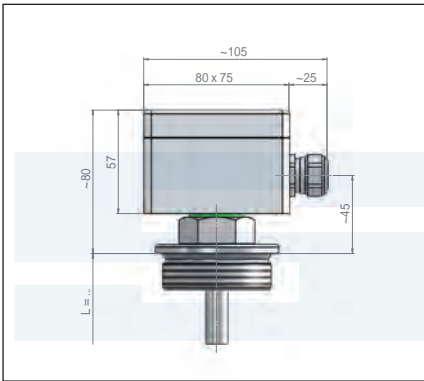
Connection type: ALE  
 Material quality: Aluminium coated RAL 7001  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 100°C



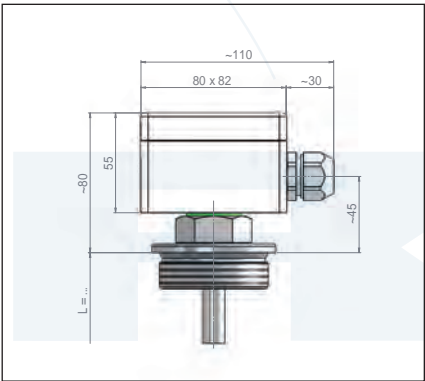
Connection type: AVA / AVDA ( Exd )  
 Material quality: Stainless steel A4 ( SS316 )  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 67 / ( Exd / IP68 )  
 Ambient temperature: -40°C ... 85°C



Connection type: DAALA  
 Material quality: Aluminium  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 60°C



Connection type: ALF  
 Material quality: Aluminium coated RAL 7001  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 100°C



Connection type: ABA  
 Material quality: ABS  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -10°C ... 80°C

Approvals / Certificates



Further electrical connections page 52 - 54  
 Further process connection according to type key page 10  
 Further floats page 48 - 51

The magnetic float level transmitter are based on a modular design and can be arranged individually.  
**Type key page 10 - 13**



| Type                      | ALE/V/R-1½-PA/K12.7-L../12-SVK44/15/V-FG | ALE/ME/R-2-PA/K12.7-L../12-SV52/15/V-FG |
|---------------------------|--|---|
| Material quality:         | Polyamide / Stainless steel              | Polyamide / Brass / Stainless steel     |
| Electrical connection:    | ALE Aluminium terminal box               | ALE Aluminium terminal box              |
| Process connection:       | G 1½"                                    | G 2"                                    |
| Guide tube:               | Ø 12 mm                                  | Ø 12 mm                                 |
| Length of instrument:     | ≤ 5000 mm                                | ≤ 5000 mm                               |
| Float:                    | SVK44/15/V Ø 44 mm                       | SV52/15/V Ø 52 mm                       |
| Specific gravity:         | ≥ 800 kg/m³                              | ≥ 700 kg/m³                             |
| Design pressure:          | -1 bar ... 1 bar                         | -1 bar ... 1 bar                        |
| Design temperature:       | -10°C ... 80°C                           | -10°C ... 80°C                          |
| Ingress protection class: | IP 65                                    | IP 65                                   |
| Mounting position:        | Vertical +/-30°                          | Vertical +/-30°                         |

| Accuracy                                |         |         |
|---|---------|---------|
| Type K.. (-30°C ... 130°C) Accuracy:    | 12.7 mm | 12.7 mm |
| Type K..HTF (-30°C ... 200°C) Accuracy: | -       | -       |
| Type K..HT (-40°C ... 250°C) Accuracy:  | -       | -       |

| Option control unit / Page 55 |   |   |
|-------------------------------|---|---|
| Control unit:                 | - Programmable<br>- Hart-programmable<br>- Profibus PA<br>- Foundation Fieldbus | - Programmable<br>- Hart-programmable<br>- Profibus PA<br>- Foundation Fieldbus |

| Option temperature probe / Page 56 |                  |                  |
|------------------------------------|------------------|------------------|
| Temperature probe:                 | Pt-100 / Pt-1000 | Pt-100 / Pt-1000 |
| Norm:                              | IEC 751 Kl.B     | IEC 751 Kl.B     |

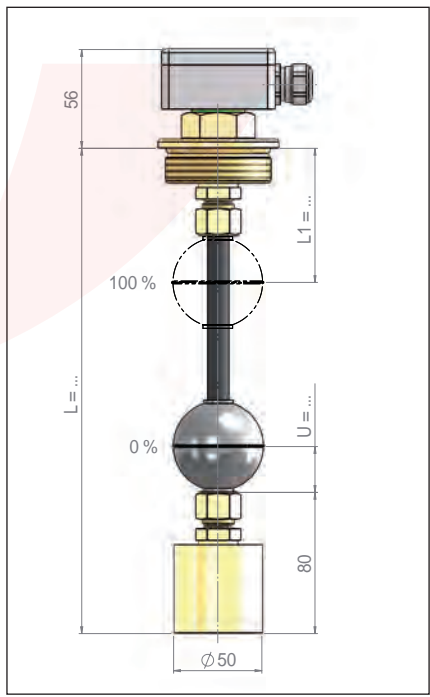
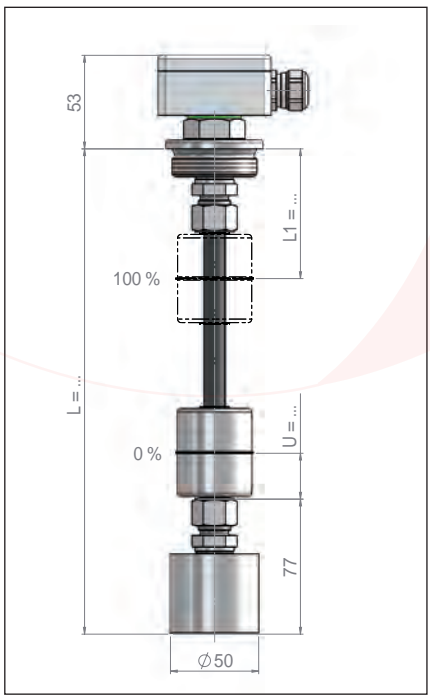
| Option temperature switch / Page 56 |                                  |                                  |
|-------------------------------------|----------------------------------|----------------------------------|
| Function:                           | Normally closed or normally open | Normally closed or normally open |
| Switching capacity:                 | Page 56                          | Page 56                          |
| Accuracy / Hysteresis:              | Page 56                          | Page 56                          |
| Temperature / Grading:              | Page 56                          | Page 56                          |

**Minimum measures**  
ALE/V/R-1½-PA/K12.7-L../12-SVK44/15/V-FG  
L1: ≥ 70 mm  
U: 45 mm

**Approvals / Certificates**  
GOST

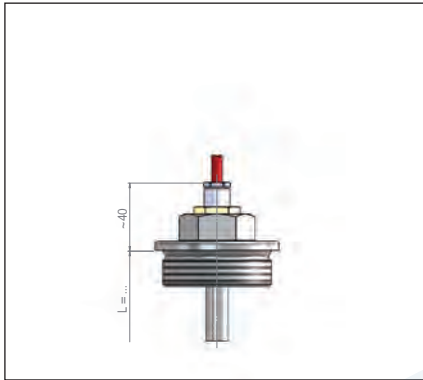
**Minimum measures**  
ALE/ME/R-2-PA/K12.7-L../12-SV52/15/V-FG  
L1: ≥ 70 mm  
U: 45 mm

**Approvals / Certificates**  
GOST

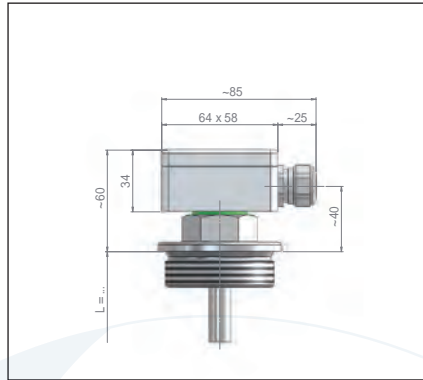


The magnetic float level transmitter are based on a modular design and can be arranged individually.  
**Type key page 10 - 13**

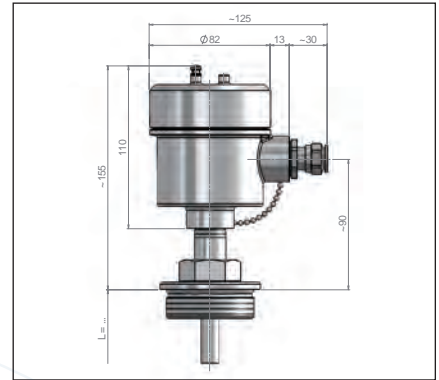
## Electrical connection



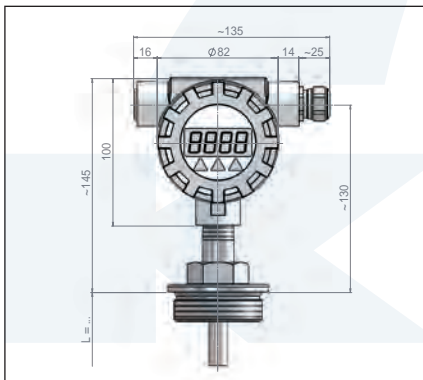
Connection type: K  
 Material quality: According as cable type  
 Cable entry: PG or metric  
 Ingress protection class: IP 55 ( optional IP 68 )  
 Ambient temperature: -40°C ... 200°C



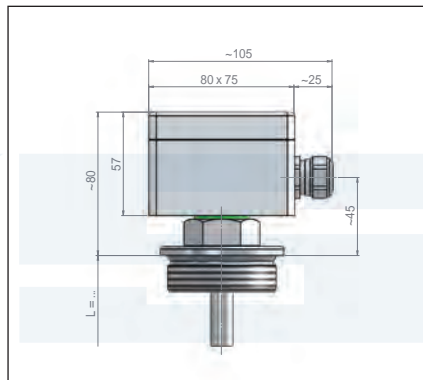
Connection type: ALE  
 Material quality: Aluminium coated RAL 7001  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 100°C



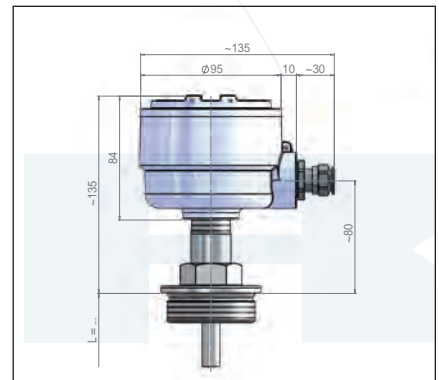
Connection type: AVA / AVDA ( Exd )  
 Material quality: Stainless steel A4 ( SS316 )  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 67 / ( Exd / IP68 )  
 Ambient temperature: -40°C ... 85°C



Connection type: DAALA  
 Material quality: Aluminium  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 60°C



Connection type: ALF  
 Material quality: Aluminium coated RAL 7001  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 100°C



Connection type: ALDA ( Exd )  
 Material quality: Aluminium coated RAL 9006  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 68  
 Ambient temperature: -40°C ... 100°C

## Approvals / Certificates



### ATEX\*

II 1/2G Ex ia c IIC T6 - T4  
 II 1/2G Ex d ia c IIC T6 - T4

II 1/2G Ex ia c IIC T6 - T3 bzw. Ex d ia c IIC T6 - T4  
 II 2D Ex tD A21 c IP6\* T80°C - T190°C bzw. T125

II 2G Ex d c IIC T6 - T4

Liquid temperature Exia max. 180°C / Exd max. 120°C

|   |                               |                               |                              |
|---|-------------------------------|-------------------------------|------------------------------|
| Type of protection intrinsic safety Ex ia IIC switch bzw. temperature switch    | $I_i \leq 100 \text{ mA}$     |                               |                              |
| Type of protection intrinsic safety Ex ia IIC temperature probe                 | $U_i \leq 28 \text{ V}$       | $I_i \leq 100 \text{ mA}$     | $P_i \leq 700 \text{ mW}$    |
| Type of protection intrinsic safety Ex ia IIC with option /N ( NAMUR EN 60947 ) | $U_i \leq 15 \text{ VDC}$     | $I_i \leq 60 \text{ mA}$      |                              |
| Type of protection „moulding“   | $U_N \leq 250 \text{ VDC/AC}$ | $P_{SN} \leq 50 \text{ W/WA}$ | $P_{FN} \leq 700 \text{ mW}$ |
| Type of protection „moulding“ with option /N ( NAMUR EN 60947 )                 | $U_N \leq 15 \text{ VDC}$     | $I_N \leq 60 \text{ mA}$      |                              |
| Type of protection „moulding“ with option /R22 ( resistor )                     | $U_N \leq 250 \text{ VDC/AC}$ | $I_N \leq 100 \text{ mA}$     |                              |

Further electrical connections page 52 - 54  
 Further process connection according to type key page 10  
 Further floats page 48 - 51

The magnetic float level transmitter are based on a modular design and can be arranged individually.

### Type key page 10 - 13

\* = The approval is dependent on the equipment combination

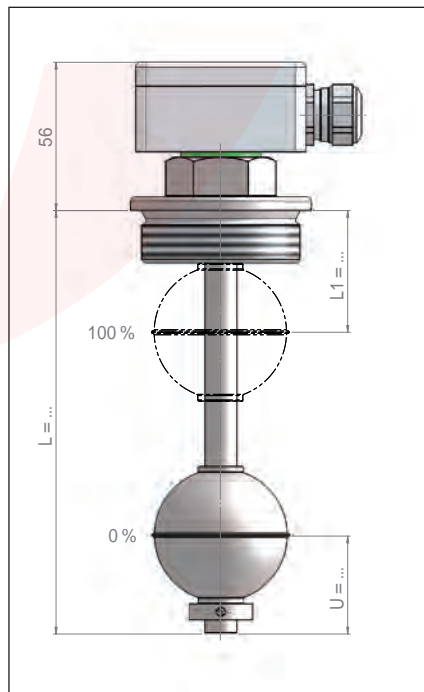
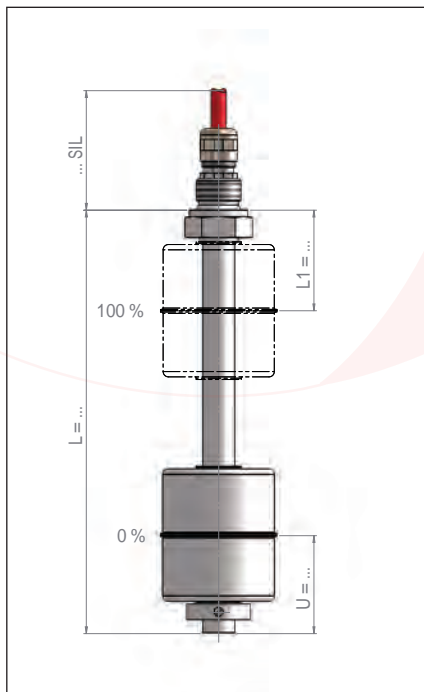
| Type                                       | K/TI/E-3/8-TI/K...L../12-STIK44/14/V-../SIL                                     | ALE/TI/R-2-TI/K...L../12-STI52/14/V   |
|--|---|---|
| Material quality:                          | Titanium  | Titanium  |
| Electrical connection:                     | Silicone connection cable   | ALE Aluminium terminal box  |
| Process connection:                        | G 3/8"  | G 2"  |
| Guide tube:                                | Ø 12 mm ( Accuracy type K5.. Ø 14 mm )  | Ø 12 mm ( Accuracy type K5.. Ø 14 mm )  |
| Length of instrument:                      | ≤ 5000 mm   | ≤ 5000 mm   |
| Float:                                     | STIK44/14/V Ø 44 mm   | STI52/14/V Ø 52 mm  |
| Specific gravity:                          | ≥ 750 kg/m <sup>3</sup>   | ≥ 600 kg/m <sup>3</sup>   |
| Design pressure:                           | -1 bar ... 15 bar   | -1 bar ... 25 bar   |
| Design temperature:                        | -10°C ... 150°C   | -10°C ... 150°C   |
| Ingress protection class:                  | IP 55 ( optional IP 68 )  | IP 65   |
| Mounting position:                         | Vertical +/-30°   | Vertical +/-30°   |
| <b>Accuracy</b>                            |   |   |
| Type K.. (-30°C ... 130°C) Accuracy:       | 5 / 10 / 12.7 / 15 mm   | 5 / 10 / 12.7 / 15 mm   |
| Type K..HTF (-30°C ... 200°C) Accuracy:    | 5 / 10 / 15 mm  | 5 / 10 / 15 mm  |
| Type K..HT (-40°C ... 250°C) Accuracy:     | -   | -   |
| <b>Option control unit / Page 55</b>       |   |   |
| Control unit:                              | - Programmable<br>- Hart-programmable<br>- Profibus PA<br>- Foundation Fieldbus | - Programmable<br>- Hart-programmable<br>- Profibus PA<br>- Foundation Fieldbus |
| <b>Option temperature probe / Page 56</b>  |   |   |
| Temperature probe:                         | Pt-100 / Pt-1000  | Pt-100 / Pt-1000  |
| Norm:                                      | IEC 751 Kl.B  | IEC 751 Kl.B  |
| <b>Option temperature switch / Page 56</b> |   |   |
| Function:                                  | Normally closed or normally open  | Normally closed or normally open  |
| Switching capacity:                        | Page 56   | Page 56   |
| Accuracy / Hysteresis:                     | Page 56   | Page 56   |
| Temperature / Grading:                     | Page 56   | Page 56   |

**Minimum measures**  
K/TI/E-3/8-TI/K...L../12-STIK44/14/V-../SIL  
L1: ≥ 50 mm  
U: 45 mm

**Approvals / Certificates**  
ATEX / PED / GOST / WHG

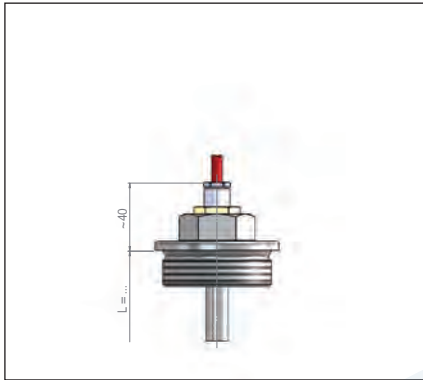
**Minimum measures**  
ALE/TI/R-2-TI/K...L../12-STI52/14/V  
L1: ≥ 55 mm  
U: 45 mm

**Approvals / Certificates**  
ATEX / PED / GOST / WHG

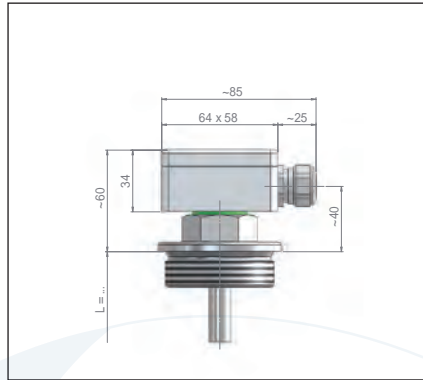


The magnetic float level transmitter are based on a modular design and can be arranged individually.  
**Type key page 10 - 13**

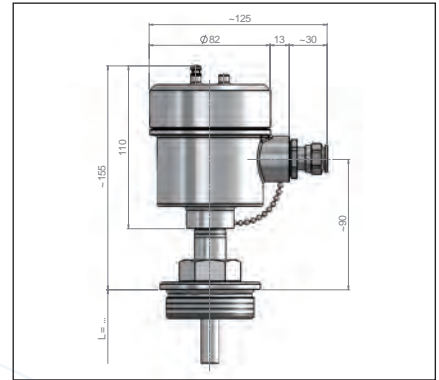
## Electrical connection



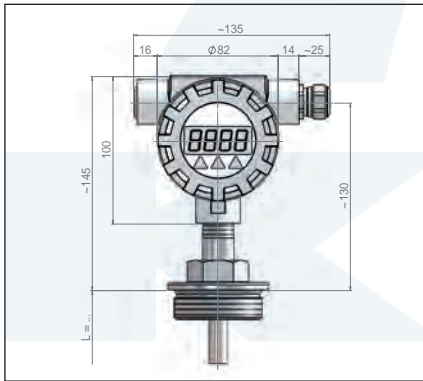
Connection type: K  
 Material quality: According as cable type  
 Cable entry: PG or metric  
 Ingress protection class: IP 55 ( optional IP 68 )  
 Ambient temperature: -40°C ... 200°C



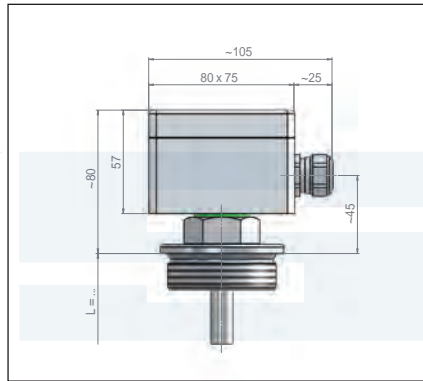
Connection type: ALE  
 Material quality: Aluminium coated RAL 7001  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 100°C



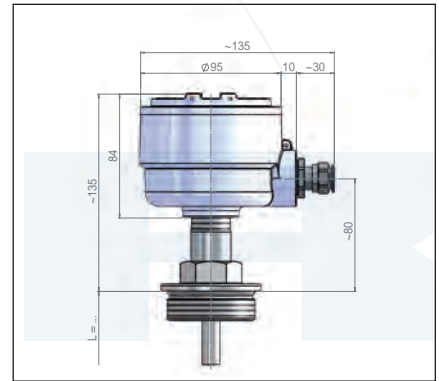
Connection type: AVA / AVDA ( Exd )  
 Material quality: Stainless steel A4 ( SS316 )  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 67 / ( Exd / IP68 )  
 Ambient temperature: -40°C ... 85°C



Connection type: DAALA  
 Material quality: Aluminium  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 60°C



Connection type: ALF  
 Material quality: Aluminium coated RAL 7001  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 100°C



Connection type: ALDA ( Exd )  
 Material quality: Aluminium coated RAL 9006  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 68  
 Ambient temperature: -40°C ... 100°C

## Approvals / Certificates



### ATEX\*

II 1/2G Ex ia c IIC T6 - T4  
 II 1/2G Ex d ia c IIC T6 - T4

II 1/2G Ex ia c IIC T6 - T3 bzw. Ex d ia c IIC T6 - T4  
 II 2D Ex tD A21 c IP6\* T80°C - T190°C bzw. T125

II 2G Ex d c IIC T6 - T4

Liquid temperature Exia max. 180°C / Exd max. 120°C

|   |                               |                               |                              |
|---|-------------------------------|-------------------------------|------------------------------|
| Type of protection intrinsic safety Ex ia IIC switch bzw. temperature switch    | $I_i \leq 100 \text{ mA}$     |                               |                              |
| Type of protection intrinsic safety Ex ia IIC temperature probe                 | $U_i \leq 28 \text{ V}$       | $I_i \leq 100 \text{ mA}$     | $P_i \leq 700 \text{ mW}$    |
| Type of protection intrinsic safety Ex ia IIC with option /N ( NAMUR EN 60947 ) | $U_i \leq 15 \text{ VDC}$     | $I_i \leq 60 \text{ mA}$      |                              |
| Type of protection „moulding“   | $U_N \leq 250 \text{ VDC/AC}$ | $P_{SN} \leq 50 \text{ W/WA}$ | $P_{FN} \leq 700 \text{ mW}$ |
| Type of protection „moulding“ with option /N ( NAMUR EN 60947 )                 | $U_N \leq 15 \text{ VDC}$     | $I_N \leq 60 \text{ mA}$      |                              |
| Type of protection „moulding“ with option /R22 ( resistor )                     | $U_N \leq 250 \text{ VDC/AC}$ | $I_N \leq 100 \text{ mA}$     |                              |

Further electrical connections page 52 - 54  
 Further process connection according to type key page 10  
 Further floats page 48 - 51

The magnetic float level transmitter are based on a modular design and can be arranged individually.

### Type key page 10 - 13

\* = The approval is dependent on the equipment combination

| Type                      | K/HC/E-3/8-HC/K..-L../12-SHCK44/15/V-../SIL | ALE/HC/R-1½-HC/K..-L../12-SHCK44/15/V          |
|---------------------------|---|--|
| Material quality:         | Alloy C                                     | Alloy C  |
| Electrical connection:    | Silicone connection cable                   | ALE Aluminium terminal box                     |
| Process connection:       | G 3/8"                                      | G 1½"  |
| Guide tube:               | Ø 12 mm                                     | Ø 12 mm  |
| Length of instrument:     | ≤ 3000 mm                                   | ≤ 3000 mm                                      |
| Float:                    | SHCK44/15/V Ø 44 mm                         | SHCK44/15/V Ø 44 mm                            |
| Specific gravity:         | ≥ 1000 kg/m³                                | ≥ 1000 kg/m³                                   |
| Design pressure:          | -1 bar ... 45 bar                           | -1 bar ... 45 bar ( depending on temperature ) |
| Design temperature:       | -40°C ... 180°C                             | See accuracy                                   |
| Ingress protection class: | IP 55 ( optional IP 68 )                    | IP 65  |
| Mounting position:        | Vertical +/-30°                             | Vertical +/-30°                                |

| Accuracy                                |                       |                       |
|---|-----------------------|-----------------------|
| Type K.. (-30°C ... 130°C) Accuracy:    | 5 / 10 / 12.7 / 15 mm | 5 / 10 / 12.7 / 15 mm |
| Type K..HTF (-30°C ... 200°C) Accuracy: | 5 / 10 / 15 mm        | 5 / 10 / 15 mm        |
| Type K..HT (-40°C ... 250°C) Accuracy:  | 10 / 15 mm            | 10 / 15 mm            |

| Option control unit / Page 55 |   |   |
|-------------------------------|---|---|
| Control unit:                 | <ul style="list-style-type: none"> <li>- Programmable</li> <li>- Hart-programmable</li> <li>- Profibus PA</li> <li>- Foundation Fieldbus</li> </ul> | <ul style="list-style-type: none"> <li>- Programmable</li> <li>- Hart-programmable</li> <li>- Profibus PA</li> <li>- Foundation Fieldbus</li> </ul> |

| Option temperature probe / Page 56 |                  |                  |
|------------------------------------|------------------|------------------|
| Temperature probe:                 | Pt-100 / Pt-1000 | Pt-100 / Pt-1000 |
| Norm:                              | IEC 751 Kl.B     | IEC 751 Kl.B     |

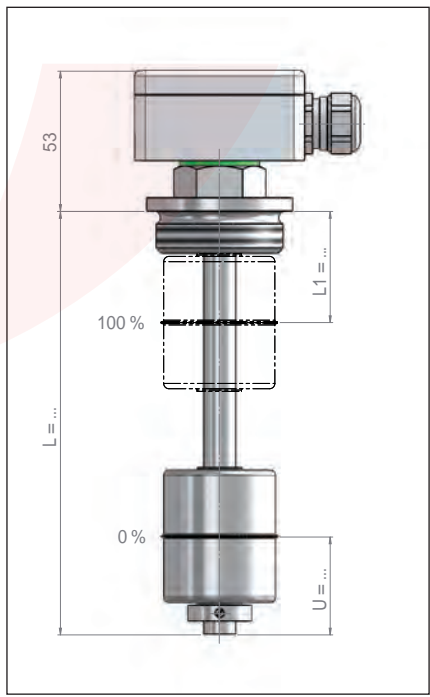
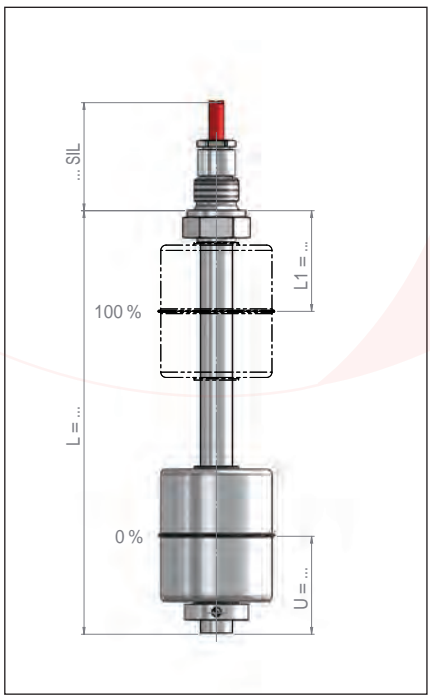
| Option temperature switch / Page 56 |                                  |                                  |
|-------------------------------------|----------------------------------|----------------------------------|
| Function:                           | Normally closed or normally open | Normally closed or normally open |
| Switching capacity:                 | Page 56                          | Page 56                          |
| Accuracy / Hysteresis:              | Page 56                          | Page 56                          |
| Temperature / Grading:              | Page 56                          | Page 56                          |

**Minimum measures**  
 K/HC/E-3/8-HC/K..-L../12-SHCK44/15/V-../SIL  
 L1: ≥ 50 mm  
 U: 45 mm

**Approvals / Certificates**  
 ATEX / PED / GOST / WHG

**Minimum measures**  
 ALE/HC/R-1½-HC/K..-L../12-SHCK44/15/V  
 L1: ≥ 50 mm  
 U: 45 mm

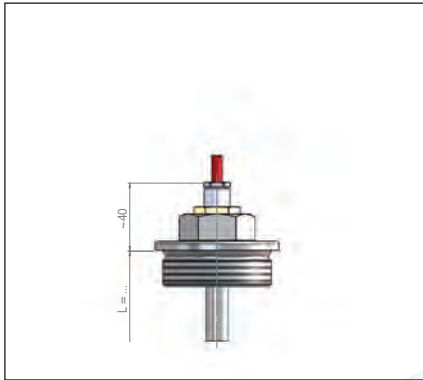
**Approvals / Certificates**  
 ATEX / PED / GOST / WHG



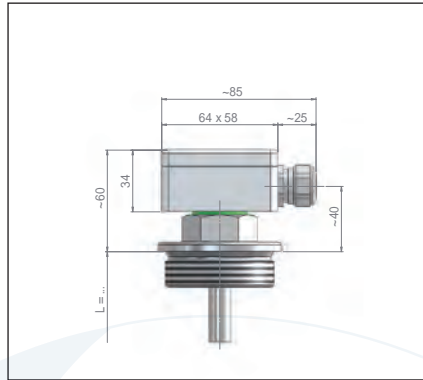
The magnetic float level transmitter are based on a modular design and can be arranged individually.  
**Type key page 10 - 13**



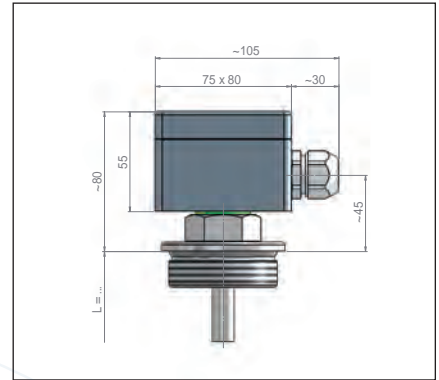
## Electrical connection



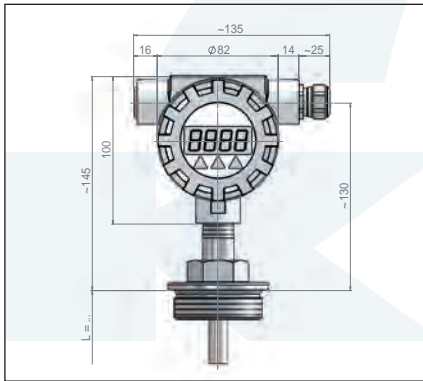
Connection type: K  
 Material quality: According as cable type  
 Cable entry: PG or metric  
 Ingress protection class: IP 55 ( optional IP 68 )  
 Ambient temperature: -40°C ... 200°C



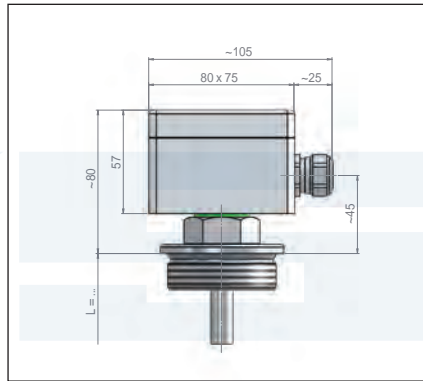
Connection type: ALE  
 Material quality: Aluminium coated RAL 7001  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 100°C



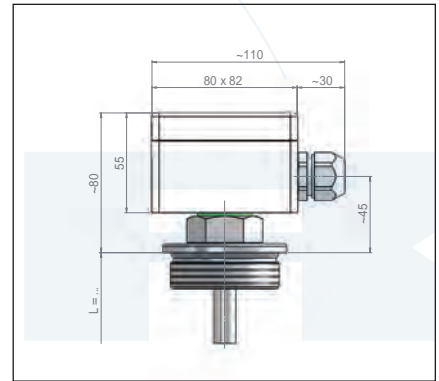
Connection type: APA / APB ( Ex )  
 Material quality: Polyester  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -10°C ... 100°C



Connection type: DAALA  
 Material quality: Aluminium  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 60°C



Connection type: ALF  
 Material quality: Aluminium coated RAL 7001  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 100°C



Connection type: ABA  
 Material quality: ABS  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -10°C ... 80°C

## Approvals / Certificates



Further electrical connections page 52 - 54  
 Further process connection according to type key page 10  
 Further floats page 48 - 51

The magnetic float level transmitter are based on a modular design and can be arranged individually.  
**Type key page 10 - 13**

| Type                                    | K/P/E-1-P/K..-L../16-SPK54/22/R../PVC   | K/P/E-1-P/K..-L../20-SPK78/25/R../PVC   |
|---|---|---|
| Material quality:                       | PVC   | PVC   |
| Electrical connection:                  | PVC connection cable  | PVC connection cable  |
| Process connection:                     | G 1"  | G 1"  |
| Guide tube:                             | Ø 16 mm   | Ø 20 mm   |
| Length of instrument:                   | ≤ 3000 mm   | ≤ 6000 mm   |
| Float:                                  | SPK54/22/R Ø 54 mm  | SPK78/25/R Ø 78 mm  |
| Specific gravity:                       | ≥ 750 kg/m <sup>3</sup>   | ≥ 600 kg/m <sup>3</sup>   |
| Design pressure:                        | -1 bar ... 1 bar  | -1 bar ... 1 bar  |
| Design temperature:                     | -15°C ... 60°C  | -15°C ... 60°C  |
| Ingress protection class:               | IP 55 ( optional IP 68 )  | IP 55 ( optional IP 68 )  |
| Mounting position:                      | Vertical +/-30°   | Vertical +/-30°   |
| Accuracy                                |   |   |
| Type K.. (-30°C ... 130°C) Accuracy:    | 5 / 10 / 12.7 / 15 mm   | 5 / 10 / 12.7 / 15 mm   |
| Type K..HTF (-30°C ... 200°C) Accuracy: | -   | -   |
| Type K..HT (-40°C ... 250°C) Accuracy:  | -   | -   |
| Option control unit / Page 55           |   |   |
| Control unit:                           | - Programmable<br>- Hart-programmable<br>- Profibus PA<br>- Foundation Fieldbus | - Programmable<br>- Hart-programmable<br>- Profibus PA<br>- Foundation Fieldbus |
| Option temperature probe / Page 56      |   |   |
| Temperature probe:                      | Pt-100 / Pt-1000  | Pt-100 / Pt-1000  |
| Norm:                                   | IEC 751 Kl.B  | IEC 751 Kl.B  |
| Option temperature switch / Page 56     |   |   |
| Function:                               | Normally closed or normally open  | Normally closed or normally open  |
| Switching capacity:                     | Page 56   | Page 56   |
| Accuracy / Hysteresis:                  | Page 56   | Page 56   |
| Temperature / Grading:                  | Page 56   | Page 56   |

**Minimum measures**

K/P/E-1-P/K..-L../16-SPK54/22/R../PVC  
L1: ≥ 65 mm  
U: 50 mm

**Approvals / Certificates**

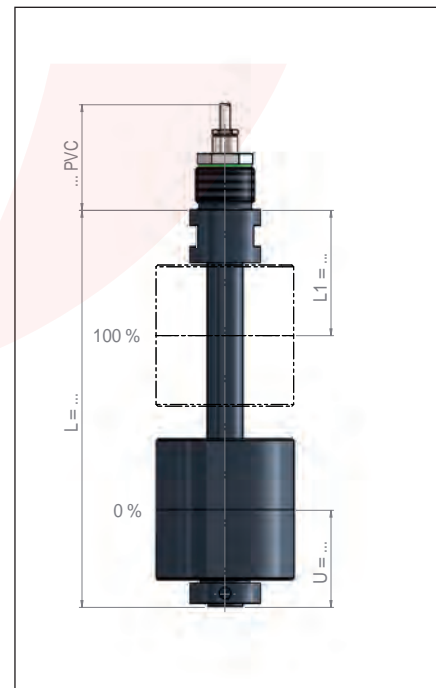
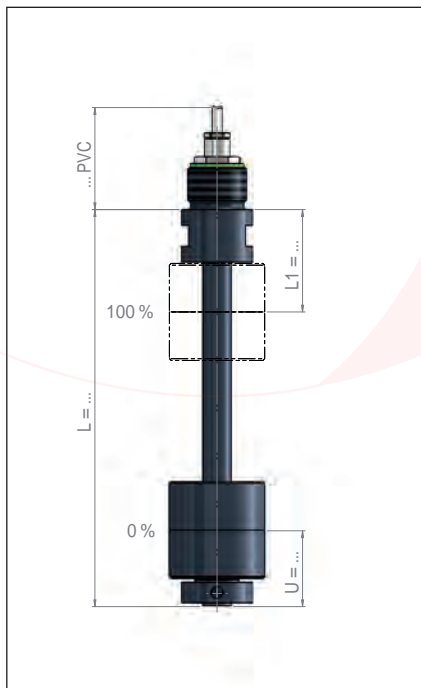
PED / WHG

**Minimum measures**

K/P/E-1-P/K..-L../20-SPK78/25/R../PVC  
L1: ≥ 80 mm  
U: 65 mm

**Approvals / Certificates**

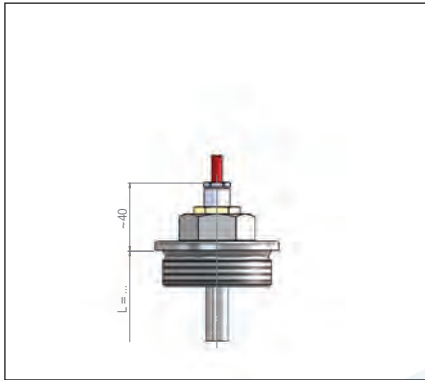
PED / WHG



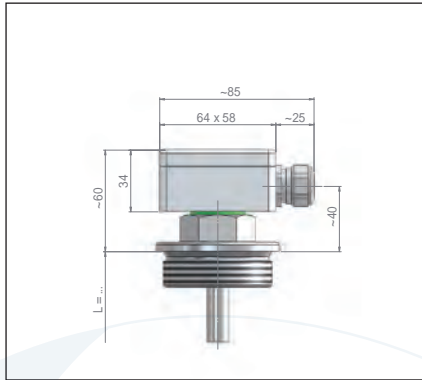
The magnetic float level transmitter are based on a modular design and can be arranged individually.

**Type key page 10 - 13**

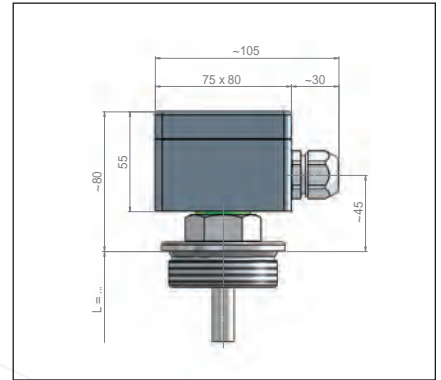
## Electrical connection



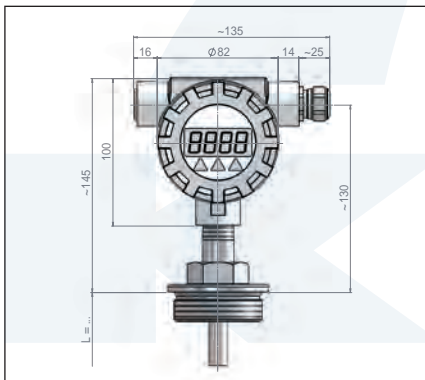
Connection type: K  
 Material quality: According as cable type  
 Cable entry: PG or metric  
 Ingress protection class: IP 55 ( optional IP 68 )  
 Ambient temperature: -40°C ... 200°C



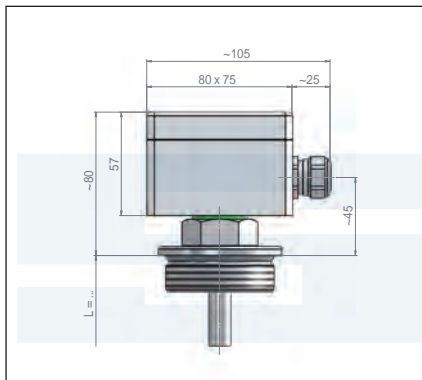
Connection type: ALE  
 Material quality: Aluminium coated RAL 7001  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 100°C



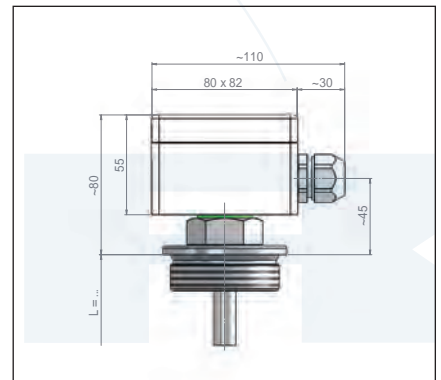
Connection type: APA / APB ( Ex )  
 Material quality: Polyester  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -10°C ... 100°C



Connection type: DAALA  
 Material quality: Aluminium  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 60°C



Connection type: ALF  
 Material quality: Aluminium coated RAL 7001  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 100°C



Connection type: ABA  
 Material quality: ABS  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -10°C ... 80°C

## Approvals / Certificates



Further electrical connections page 52 - 54  
 Further process connection according to type key page 10  
 Further floats page 48 - 51

The magnetic float level transmitter are based on a modular design and can be arranged individually.  
**Type key page 10 - 13**

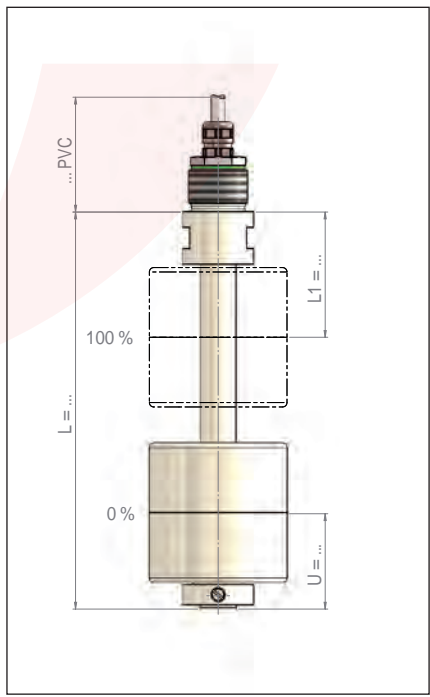
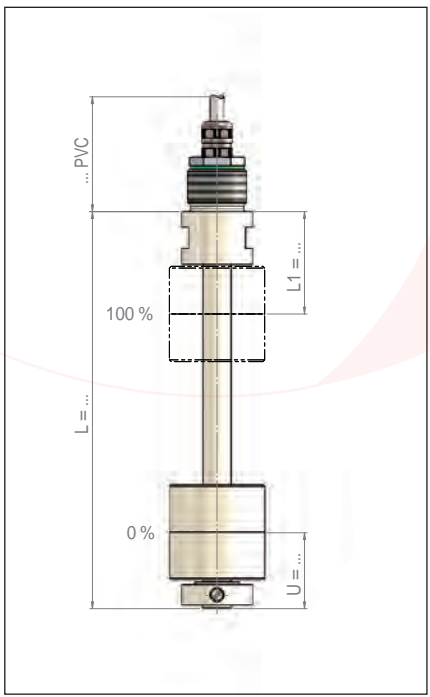
| Type                                    | K/PP/E-1-PP/K..-L../16-SPPK56/21/R-../PVC                                       | K/PP/E-1-PP/K..-L../20-SPPK80/24/R-../PVC                                       |
|---|---|---|
| Material quality:                       | Polypropylene   | Polypropylene   |
| Electrical connection:                  | PVC connection cable  | PVC connection cable  |
| Process connection:                     | G 1"  | G 1"  |
| Guide tube:                             | Ø 16 mm   | Ø 20 mm   |
| Length of instrument:                   | ≤ 3000 mm   | ≤ 6000 mm   |
| Float:                                  | SPPK56/21/R Ø 56 mm   | SPPK80/24/R Ø 80 mm   |
| Specific gravity:                       | ≥ 600 kg/m³   | ≥ 500 kg/m³   |
| Design pressure:                        | -1 bar ... 1 bar  | -1 bar ... 1 bar  |
| Design temperature:                     | -10°C ... 80°C  | -10°C ... 80°C  |
| Ingress protection class:               | IP 55 ( optional IP 68 )  | IP 55 ( optional IP 68 )  |
| Mounting position:                      | Vertical +/-30°   | Vertical +/-30°   |
| Accuracy                                |   |   |
| Type K.. (-30°C ... 130°C) Accuracy:    | 5 / 10 / 12.7 / 15 mm   | 5 / 10 / 12.7 / 15 mm   |
| Type K..HTF (-30°C ... 200°C) Accuracy: | -   | -   |
| Type K..HT (-40°C ... 250°C) Accuracy:  | -   | -   |
| Option control unit / Page 55           |   |   |
| Control unit:                           | - Programmable<br>- Hart-programmable<br>- Profibus PA<br>- Foundation Fieldbus | - Programmable<br>- Hart-programmable<br>- Profibus PA<br>- Foundation Fieldbus |
| Option temperature probe / Page 56      |   |   |
| Temperature probe:                      | Pt-100 / Pt-1000  | Pt-100 / Pt-1000  |
| Norm:                                   | IEC 751 Kl.B  | IEC 751 Kl.B  |
| Option temperature switch / Page 56     |   |   |
| Function:                               | Normally closed or normally open  | Normally closed or normally open  |
| Switching capacity:                     | Page 56   | Page 56   |
| Accuracy / Hysteresis:                  | Page 56   | Page 56   |
| Temperature / Grading:                  | Page 56   | Page 56   |

**Minimum measures**

K/PP/E-1-PP/K..-L../16-SPPK56/21/R-../PVC  
 L1: ≥ 65 mm  
 U: 50 mm

**Approvals / Certificates**

PED / WHG



**Minimum measures**

K/PP/E-1-PP/K..-L../20-SPPK80/24/R-../PVC  
 L1: ≥ 80 mm  
 U: 65 mm

**Approvals / Certificates**

PED / WHG

The magnetic float level transmitter are based on a modular design and can be arranged individually.  
**Type key page 10 - 13**

# Magnetic Float Level Transmitter / Polypropylene

**Type** **APA/PP/R-2-PP/K..-L../16-SPPK56/21/R** **APA/PP/FE-80/10/A-PP/K..-L../20-SPPK80/24/R**

|                           |                         |                                  |
|---------------------------|-------------------------|----------------------------------|
| Material quality:         | Polypropylene           | Polypropylene                    |
| Electrical connection:    | Polyester terminal box  | Polyester terminal box           |
| Process connection:       | G 2"                    | Flange EN DN 80 / PN 10 / Form A |
| Guide tube:               | Ø 16 mm                 | Ø 20 mm                          |
| Length of instrument:     | ≤ 3000 mm               | ≤ 6000 mm                        |
| Float:                    | SPPK56/21/R Ø 56 mm     | SPPK80/24/R Ø 80 mm              |
| Specific gravity:         | ≥ 600 kg/m <sup>3</sup> | ≥ 500 kg/m <sup>3</sup>          |
| Design pressure:          | -1 bar ... 1 bar        | -1 bar ... 1 bar                 |
| Design temperature:       | -10°C ... 80°C          | -10°C ... 80°C                   |
| Ingress protection class: | IP 65                   | IP 65                            |
| Mounting position:        | Vertical +/-30°         | Vertical +/-30°                  |

**Accuracy**

|   |                       |                       |
|---|-----------------------|-----------------------|
| Type K.. (-30°C ... 130°C) Accuracy:    | 5 / 10 / 12.7 / 15 mm | 5 / 10 / 12.7 / 15 mm |
| Type K..HTF (-30°C ... 200°C) Accuracy: | -                     | -                     |
| Type K..HT (-40°C ... 250°C) Accuracy:  | -                     | -                     |

**Option control unit / Page 55**

|               |   |   |
|---------------|---|---|
| Control unit: | - Programmable<br>- Hart-programmable<br>- Profibus PA<br>- Foundation Fieldbus | - Programmable<br>- Hart-programmable<br>- Profibus PA<br>- Foundation Fieldbus |
|---------------|---|---|

**Option temperature probe / Page 56**

|                    |                  |                  |
|--------------------|------------------|------------------|
| Temperature probe: | Pt-100 / Pt-1000 | Pt-100 / Pt-1000 |
| Norm:              | IEC 751 Kl.B     | IEC 751 Kl.B     |

**Option temperature switch / Page 56**

|                        |                                  |                                  |
|------------------------|----------------------------------|----------------------------------|
| Function:              | Normally closed or normally open | Normally closed or normally open |
| Switching capacity:    | Page 56                          | Page 56                          |
| Accuracy / Hysteresis: | Page 56                          | Page 56                          |
| Temperature / Grading: | Page 56                          | Page 56                          |

**Minimum measures**

APA/PP/R-2-PP/K..-L../16-SPPK56/21/R  
L1: ≥ 65 mm  
U: 50 mm

**Approvals / Certificates**

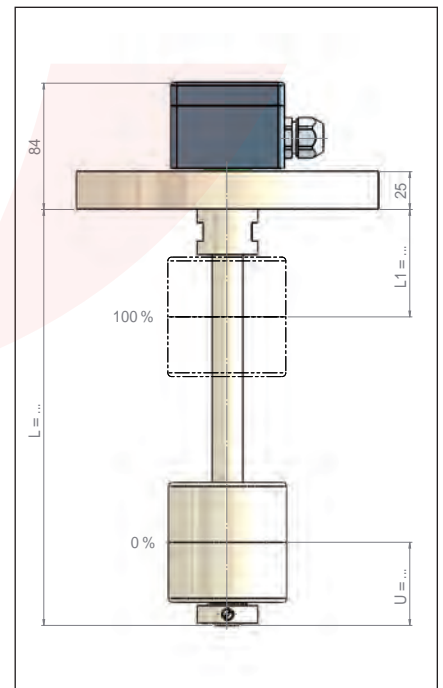
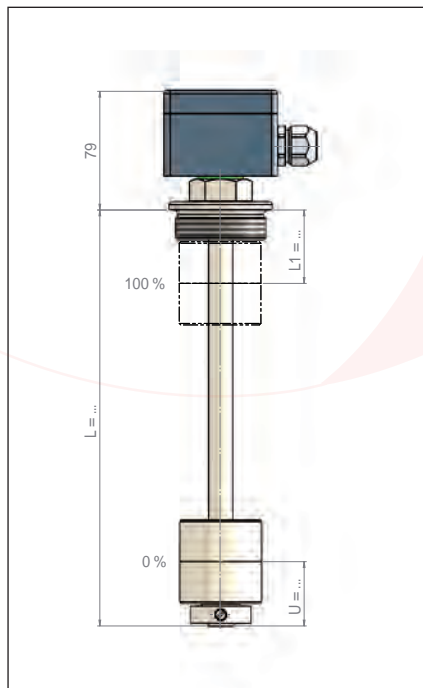
PED / WHG

**Minimum measures**

APA/PP/FE-80/10/A-PP/K..-L../20-SPPK80/24/R  
L1: ≥ 80 mm  
U: 65 mm

**Approvals / Certificates**

PED / WHG



The Magnetic Float Level Transmitter are based on a modular design and can be arranged individually.

**Type key page 10 - 13**



| Type                                       | ABA/PP/R-1½-PP/K12.7-L../16-SPPK44/21/V-FG  | ABA/PP/R-2-PP/K12.7-L../16-SPPK56/21/R-FG   |
|--|---|---|
| Material quality:                          | Polypropylene   | Polypropylene   |
| Electrical connection:                     | Polyester terminal box  | Polyester terminal box  |
| Process connection:                        | G 1½"   | G 2"  |
| Guide tube:                                | Ø 16 mm   | Ø 16 mm   |
| Length of instrument:                      | ≤ 3000 mm   | ≤ 3000 mm   |
| Float:                                     | SPPK44/21/V Ø 44 mm   | SPPK56/21/R Ø 56 mm   |
| Specific gravity:                          | ≥ 800 kg/m³   | ≥ 600 kg/m³   |
| Design pressure:                           | -1 bar ... 1 bar  | -1 bar ... 1 bar  |
| Design temperature:                        | -10°C ... 80°C  | -10°C ... 80°C  |
| Ingress protection class:                  | IP 65   | IP 65   |
| Mounting position:                         | Vertical +/-30°   | Vertical +/-30°   |
| <b>Accuracy</b>                            |   |   |
| Type K.. (-30°C ... 130°C) Accuracy:       | 12.7 mm   | 12.7 mm   |
| Type K..HTF (-30°C ... 200°C) Accuracy:    | -   | -   |
| Type K..HT (-40°C ... 250°C) Accuracy:     | -   | -   |
| <b>Option control unit / Page 55</b>       |   |   |
| Control unit:                              | <ul style="list-style-type: none"> <li>- Programmable</li> <li>- Hart-programmable</li> <li>- Profibus PA</li> <li>- Foundation Fieldbus</li> </ul> | <ul style="list-style-type: none"> <li>- Programmable</li> <li>- Hart-programmable</li> <li>- Profibus PA</li> <li>- Foundation Fieldbus</li> </ul> |
| <b>Option temperature probe / Page 56</b>  |   |   |
| Temperature probe:                         | Pt-100 / Pt-1000  | Pt-100 / Pt-1000  |
| Norm:                                      | IEC 751 Kl.B  | IEC 751 Kl.B  |
| <b>Option temperature switch / Page 56</b> |   |   |
| Function:                                  | Normally closed or normally open  | Normally closed or normally open  |
| Switching capacity:                        | Page 56   | Page 56   |
| Accuracy / Hysteresis:                     | Page 56   | Page 56   |
| Temperature / Grading:                     | Page 56   | Page 56   |

### Minimum measures

ABA/PP/R-1½-PP/K12.7-L../16-SPPK44/21/V-FG  
 L1: ≥ 50 mm  
 U: 55 mm

### Approvals / Certificates

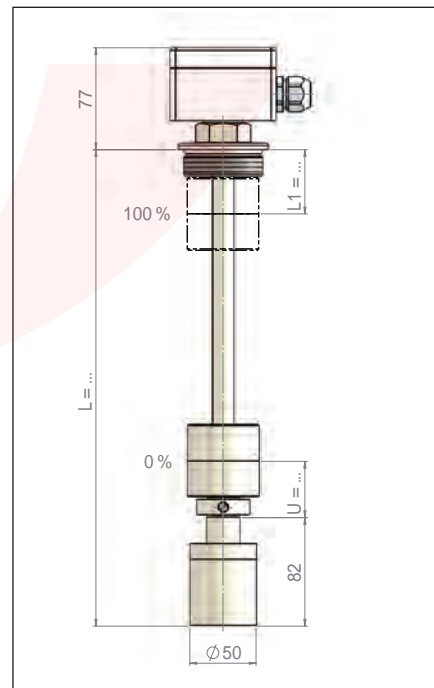
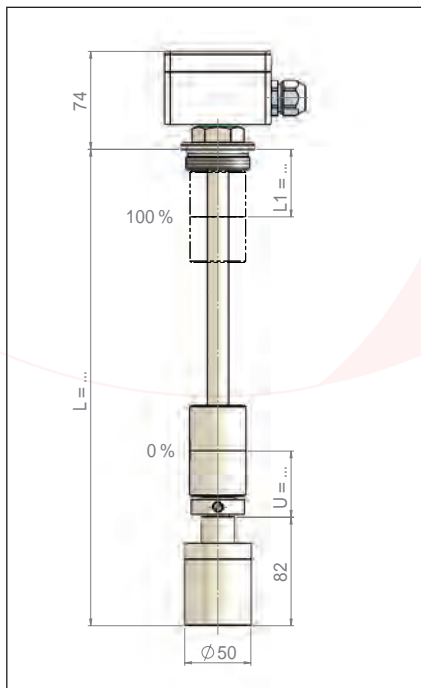
PED / WHG

### Minimum measures

ABA/PP/R-2-PP/K12.7-L../16-SPPK56/21/R-FG  
 L1: ≥ 65 mm  
 U: 50 mm

### Approvals / Certificates

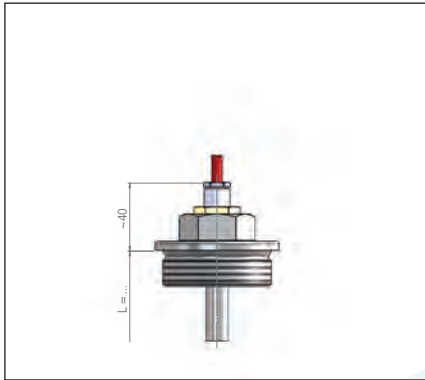
PED / WHG



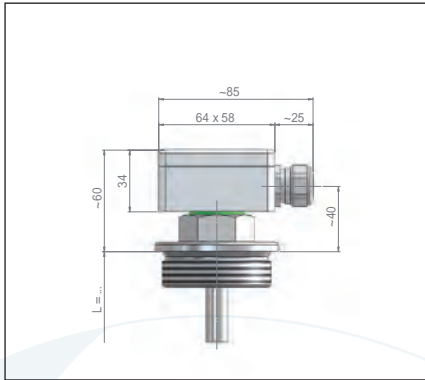
The Magnetic Float Level Transmitter are based on a modular design and can be arranged individually.

**Type key page 10 - 13**

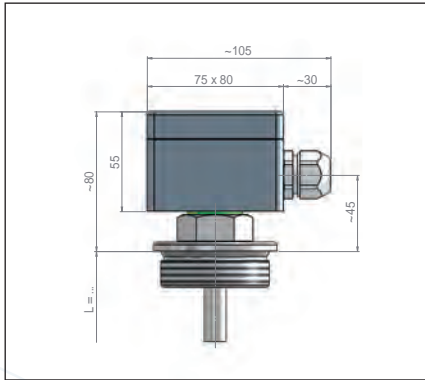
Electrical connection



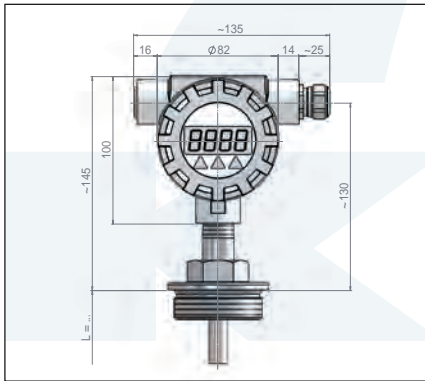
Connection type: K  
 Material quality: According as cable type  
 Cable entry: PG or metric  
 Ingress protection class: IP 55 ( optional IP 68 )  
 Ambient temperature: -40°C ... 200°C



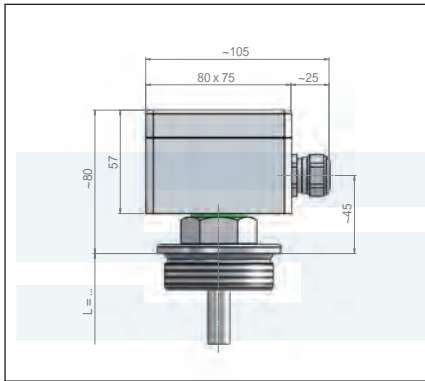
Connection type: ALE  
 Material quality: Aluminium coated RAL 7001  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 100°C



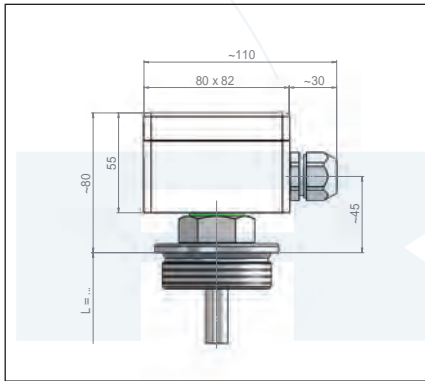
Connection type: APA / APB ( Ex )  
 Material quality: Polyester  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -10°C ... 100°C



Connection type: DAALA  
 Material quality: Aluminium  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 60°C



Connection type: ALF  
 Material quality: Aluminium coated RAL 7001  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 100°C



Connection type: ABA  
 Material quality: ABS  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -10°C ... 80°C

Approvals / Certificates



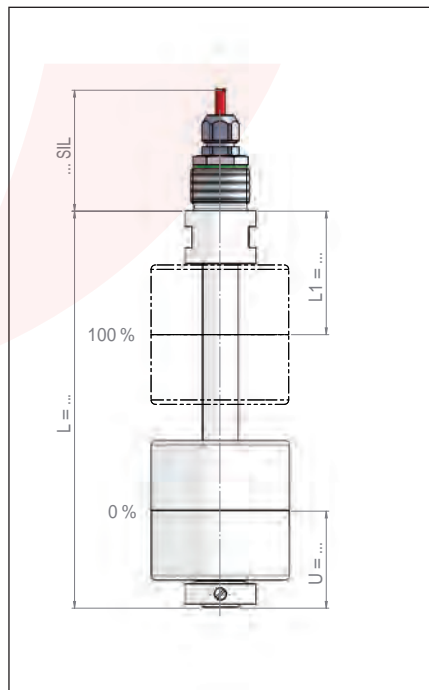
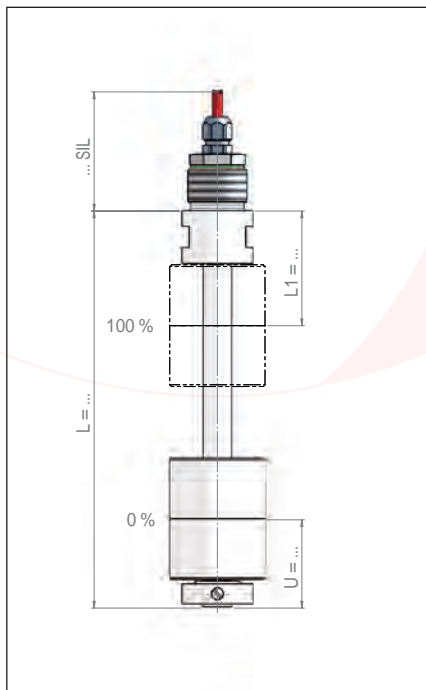
Further electrical connections page 52 - 54  
 Further process connection according to type key page 10  
 Further floats page 48 - 51

The magnetic float level transmitter are based on a modular design and can be arranged individually.  
**Type key page 10 - 13**

| Type                                    | K/PF/E-1-PF/K..-L../16-SPFK56/21/R-../SIL                                       | K/PF/E-1-PF/K..-L../20-SPFK80/24/V-../SIL                                       |
|---|---|---|
| Material quality:                       | PVDF  | PVDF  |
| Electrical connection:                  | Silicone connection cable   | Silicone connection cable   |
| Process connection:                     | G 1"  | G 1"  |
| Guide tube:                             | Ø 16 mm   | Ø 20 mm   |
| Length of instrument:                   | ≤ 3000 mm   | ≤ 3000 mm   |
| Float:                                  | SPFK56/21/R Ø 56 mm   | SPFK80/24/V Ø 80 mm   |
| Specific gravity:                       | ≥ 800 kg/m <sup>3</sup>   | ≥ 700 kg/m <sup>3</sup>   |
| Design pressure:                        | -1 bar ... 1 bar  | -1 bar ... 1 bar  |
| Design temperature:                     | -10°C ... 100°C   | -10°C ... 100°C   |
| Ingress protection class:               | IP 55 ( optional IP 68 )  | IP 55 ( optional IP 68 )  |
| Mounting position:                      | Vertical +/-30°   | Vertical +/-30°   |
| Accuracy                                |   |   |
| Type K.. (-30°C ... 130°C) Accuracy:    | 5 / 10 / 12.7 / 15 mm   | 5 / 10 / 12.7 / 15 mm   |
| Type K..HTF (-30°C ... 200°C) Accuracy: | -   | -   |
| Type K..HT (-40°C ... 250°C) Accuracy:  | -   | -   |
| Option control unit / Page 55           |   |   |
| Control unit:                           | - Programmable<br>- Hart-programmable<br>- Profibus PA<br>- Foundation Fieldbus | - Programmable<br>- Hart-programmable<br>- Profibus PA<br>- Foundation Fieldbus |
| Option temperature probe / Page 56      |   |   |
| Temperature probe:                      | Pt-100 / Pt-1000  | Pt-100 / Pt-1000  |
| Norm:                                   | IEC 751 Kl.B  | IEC 751 Kl.B  |
| Option temperature switch / Page 56     |   |   |
| Function:                               | Normally closed or normally open  | Normally closed or normally open  |
| Switching capacity:                     | Page 56   | Page 56   |
| Accuracy / Hysteresis:                  | Page 56   | Page 56   |
| Temperature / Grading:                  | Page 56   | Page 56   |

**Minimum measures**  
K/PF/E-1-PF/K..-L../16-SPFK56/21/R-../SIL  
L1: ≥ 65 mm  
U: 60 mm

**Approvals / Certificates**  
PED / WHG

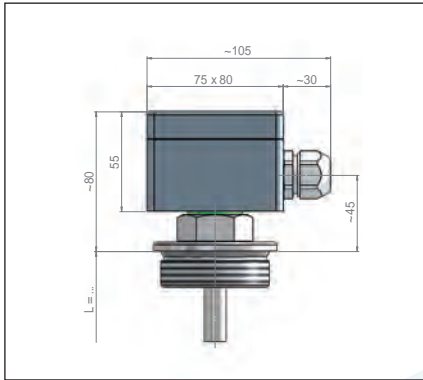


**Minimum measures**  
K/PF/E-1-PF/K..-L../20-SPFK80/24/V-../SIL  
L1: ≥ 80 mm  
U: 65 mm

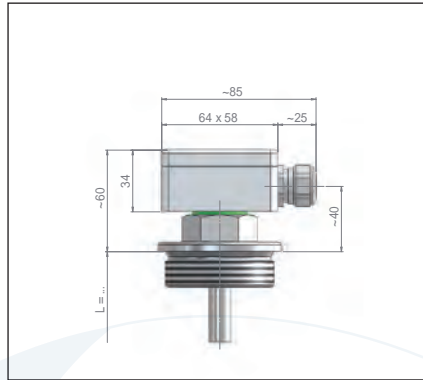
**Approvals / Certificates**  
PED / WHG

The magnetic float level transmitter are based on a modular design and can be arranged individually.  
**Type key page 10 - 13**

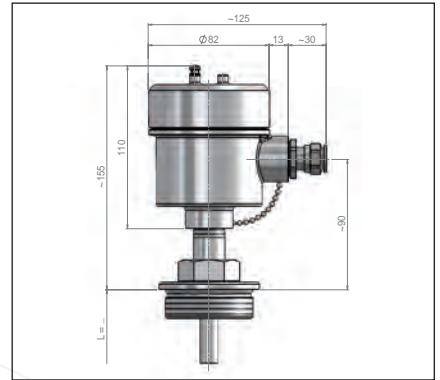
Electrical connection



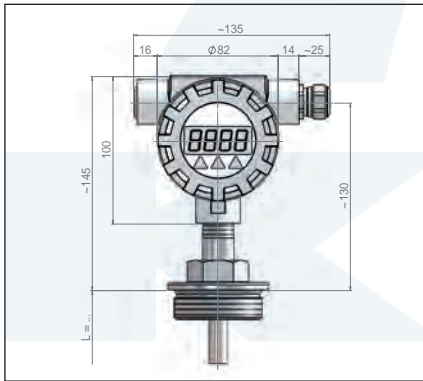
Connection type: APA / APB ( Ex )  
 Material quality: Polyester  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -10°C ... 100°C



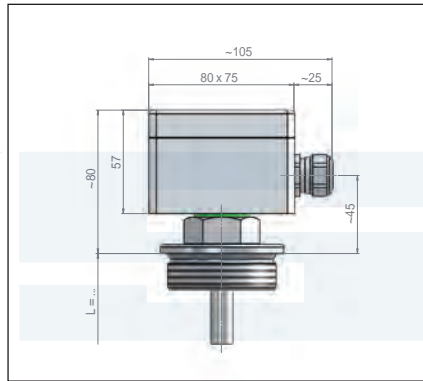
Connection type: ALE  
 Material quality: Aluminium coated RAL 7001  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 100°C



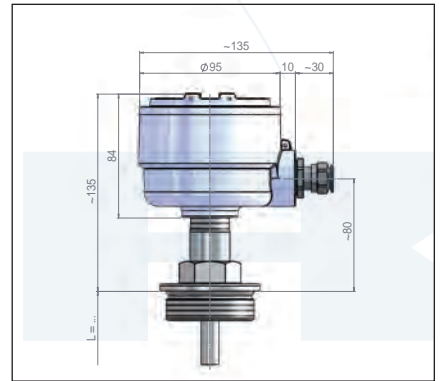
Connection type: AVA / AVDA ( Exd )  
 Material quality: Stainless steel A4 ( SS316 )  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 67 / ( Exd / IP68 )  
 Ambient temperature: -40°C ... 85°C



Connection type: DAALA  
 Material quality: Aluminium  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 60°C



Connection type: ALF  
 Material quality: Aluminium coated RAL 7001  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 100°C



Connection type: ALDA ( Exd )  
 Material quality: Aluminium coated RAL 9006  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 68  
 Ambient temperature: -40°C ... 100°C

Approvals / Certificates



|   |                               |                               |  |
|---|-------------------------------|-------------------------------|--|
| ATEX*   |                               |                               |  |
| II 1/2G   | Ex ia c IIC T6 - T4           | II 1/2G                       | Ex ia c IIC T6 - T3 bzw. Ex d ia c IIC T6 - T4 |
| II 1/2G   | Ex d ia c IIC T6 - T4         | II 2D                         | Ex tD A21 c IP6* T80°C - T190°C bzw. T125      |
| Liquid temperature Exia max. 180°C / Exd max. 120°C                             |                               |                               |  |
| Type of protection intrinsic safety Ex ia IIC switch bzw. temperature switch    | $I_i \leq 100 \text{ mA}$     |                               |  |
| Type of protection intrinsic safety Ex ia IIC temperature probe                 | $U_i \leq 28 \text{ V}$       | $I_i \leq 100 \text{ mA}$     | $P_i \leq 700 \text{ mW}$                      |
| Type of protection intrinsic safety Ex ia IIC with option /N ( NAMUR EN 60947 ) | $U_i \leq 15 \text{ VDC}$     | $I_i \leq 60 \text{ mA}$      |  |
| Type of protection „moulding“   | $U_N \leq 250 \text{ VDC/AC}$ | $P_{SN} \leq 50 \text{ W/VA}$ | $P_{FN} \leq 700 \text{ mW}$                   |
| Type of protection „moulding“ with option /N ( NAMUR EN 60947 )                 | $U_N \leq 15 \text{ VDC}$     | $I_N \leq 60 \text{ mA}$      |  |
| Type of protection „moulding“ with option /R22 ( resistor )                     | $U_N \leq 250 \text{ VDC/AC}$ | $I_N \leq 100 \text{ mA}$     |  |

Further electrical connections page 52 - 54  
 Further process connection according to type key page 10  
 Further floats page 48 - 51

The magnetic float level transmitter are based on a modular design and can be arranged individually.  
**Type key page 10 - 13**

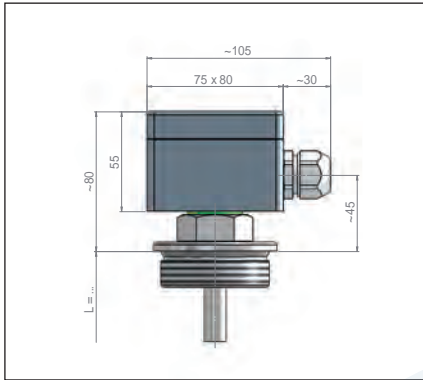
\* = The approval is dependent on the equipment combination

| Type  | ALE/VEEC/FE-50/16/B1-VEEC/K10-L../11-SVEECK45/14/V  | ALE/VEEC/FE-80/16/B1-VEEC/K../L../17-SVEECK73/23/V  |
|---|---|---|
| Material quality:<br>Electrical connection:<br>Process connection:<br>Guide tube:<br>Length of instrument:<br>Float:<br>Specific gravity:<br>Design pressure:<br>Design temperature:<br>Ingress protection class:<br>Mounting position: | Stainless steel ECTFE coated<br>ALE Aluminium terminal box<br>Flange EN DN 50 / PN 16 / Form B1<br>Ø 11 mm<br>≤ 3000 mm<br>SVEECK45/14/V Ø 44 mm<br>≥ 950 kg/m <sup>3</sup><br>-1 bar ... 16 bar ( depending on temperature )<br>-40°C ... +150°C<br>IP 65<br>Vertical +/-30° | Stainless steel ECTFE coated<br>ALE Aluminium terminal box<br>Flange EN DN 80 / PN 16 / Form B1<br>Ø 17 mm<br>≤ 3000 mm<br>SVEECK73/23/V Ø 73 mm<br>≥ 750 kg/m <sup>3</sup><br>-1 bar ... 16 bar ( depending on temperature )<br>-40°C ... +150°C<br>IP 65<br>Vertical +/-30° |
| Accuracy  | Type K.. (-30°C ... 130°C) Accuracy: 10 mm<br>Type K..HTF (-30°C ... 200°C) Accuracy: 10 mm<br>Type K..HT (-40°C ... 250°C) Accuracy: -   | 5 / 10 / 12.7 / 15 mm<br>5 / 10 / 15 mm<br>-  |
| Option control unit / Page 55   | Control unit:<br>- Programmable<br>- Hart-programmable<br>- Profibus PA<br>- Fondation Fieldbus   | - Programmable<br>- Hart-programmable<br>- Profibus PA<br>- Fondation Fieldbus  |
| Option temperature probe / Page 56  | Temperature probe:<br>Norm:<br>Pt-100 / Pt-1000<br>IEC 751 Kl.B   | Pt-100 / Pt-1000<br>IEC 751 Kl.B  |
| Option temperature switch / Page 56   | Function:<br>Switching capacity:<br>Accuracy / Hysteresis:<br>Temperature / Grading:<br>Normally closed or normally open<br>Page 56<br>Page 56<br>Page 56   | Normally closed or normally open<br>Page 56<br>Page 56<br>Page 56   |
| <b>Minimum measures</b>   |   |   |
| ALE/VEEC/FE-50/16/B1-VEEC/K10-L../11-SVEECK45/14/V<br>L1: ≥ 70 mm<br>U: 70 mm   |   |   |
| <b>Approvals / Certificates</b>   | ATEX / PED / GOST / WHG   |   |
| <b>Minimum measures</b>   |   |   |
| ALE/VEEC/FE-80/16/B1-VEEC/K../L../17-SVEECK73/23/V<br>L1: ≥ 70 mm<br>U: 70 mm   |   |   |
| <b>Approvals / Certificates</b>   | ATEX / PED / GOST / WHG   |   |

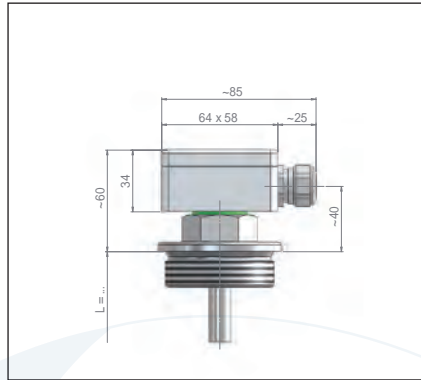
The magnetic float level transmitter are based on a modular design and can be arranged individually.  
**Type key page 10 - 13**



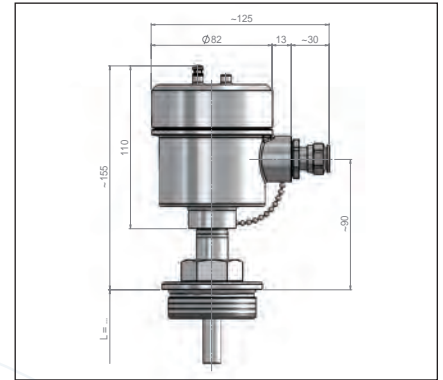
## Electrical connection



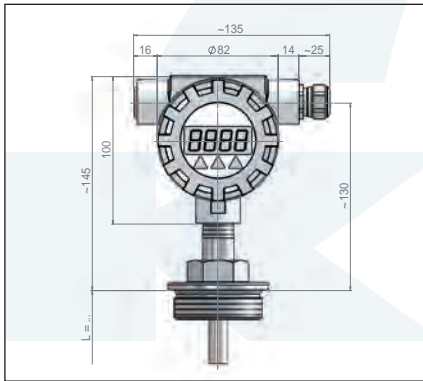
Connection type: APA / APB ( Ex )  
 Material quality: Polyester  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -10°C ... 100°C



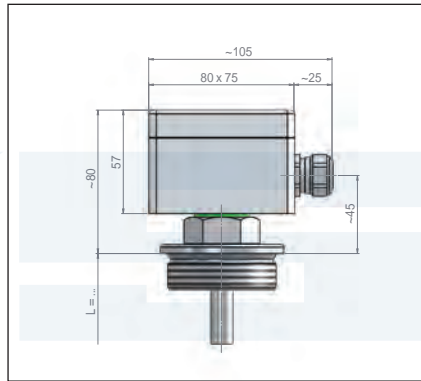
Connection type: ALE  
 Material quality: Aluminium coated RAL 7001  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 100°C



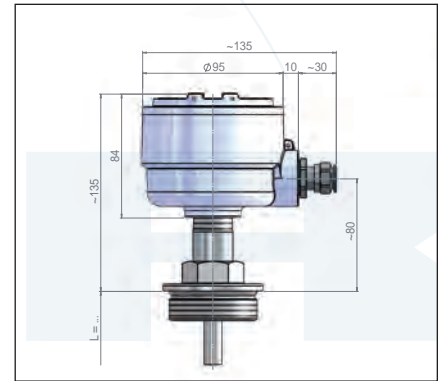
Connection type: AVA / AVDA ( Exd )  
 Material quality: Stainless steel A4 ( SS316 )  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 67 / ( Exd / IP68 )  
 Ambient temperature: -40°C ... 85°C



Connection type: DAALA  
 Material quality: Aluminium  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 60°C



Connection type: ALF  
 Material quality: Aluminium coated RAL 7001  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 100°C



Connection type: ALDA ( Exd )  
 Material quality: Aluminium coated RAL 9006  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 68  
 Ambient temperature: -40°C ... 100°C

## Approvals / Certificates



### ATEX\*

II 1/2G Ex ia c IIC T6 - T4  
 II 1/2G Ex d ia c IIC T6 - T4

II 1/2G Ex ia c IIC T6 - T3 bzw. Ex d ia c IIC T6 - T4  
 II 2D Ex tD A21 c IP6\* T80°C - T190°C bzw. T125

II 2G Ex d c IIC T6 - T4

Liquid temperature Exia max. 180°C / Exd max. 120°C

|   |                               |                               |                              |
|---|-------------------------------|-------------------------------|------------------------------|
| Type of protection intrinsic safety Ex ia IIC switch bzw. temperature switch    | $I_i \leq 100 \text{ mA}$     |                               |                              |
| Type of protection intrinsic safety Ex ia IIC temperature probe                 | $U_i \leq 28 \text{ V}$       | $I_i \leq 100 \text{ mA}$     | $P_i \leq 700 \text{ mW}$    |
| Type of protection intrinsic safety Ex ia IIC with option /N ( NAMUR EN 60947 ) | $U_i \leq 15 \text{ VDC}$     | $I_i \leq 60 \text{ mA}$      |                              |
| Type of protection „moulding“   | $U_N \leq 250 \text{ VDC/AC}$ | $P_{SN} \leq 50 \text{ W/VA}$ | $P_{FN} \leq 700 \text{ mW}$ |
| Type of protection „moulding“ with option /N ( NAMUR EN 60947 )                 | $U_N \leq 15 \text{ VDC}$     | $I_N \leq 60 \text{ mA}$      |                              |
| Type of protection „moulding“ with option /R22 ( resistor )                     | $U_N \leq 250 \text{ VDC/AC}$ | $I_N \leq 100 \text{ mA}$     |                              |

Further electrical connections page 52 - 54  
 Further process connection according to type key page 10  
 Further floats page 48 - 51

The magnetic float level transmitter are based on a modular design and can be arranged individually.

### Type key page 10 - 13

\* = The approval is dependent on the equipment combination

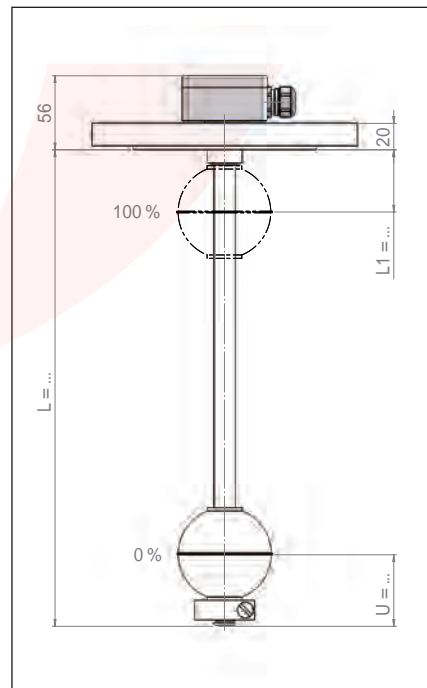
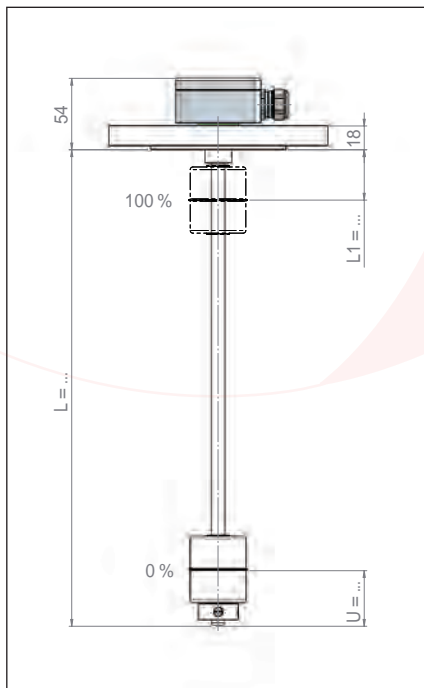
| Type                                    | ALE/VPFA/FE-50/16/B1-VPFA/K10-L../11-SVPFAK45/14/V                              | ALE/VPFA/FE-80/16/B1-VPFA/K../L../17-SVPFA73/23/V                               |
|---|---|---|
| Material quality:                       | Stainless steel PFA coated  | Stainless steel PFA coated  |
| Electrical connection:                  | ALE Aluminium terminal box  | ALE Aluminium terminal box  |
| Process connection:                     | Flange EN DN 50 / PN 16 / Form B1   | Flange EN DN 80 / PN 16 / Form B1   |
| Guide tube:                             | Ø 11mm  | Ø 17 mm   |
| Length of instrument:                   | ≤ 3000 mm   | ≤ 3000 mm   |
| Float:                                  | SVPFAK45/14/V Ø 44 mm   | SVPFA73/23/V Ø 73 mm  |
| Specific gravity:                       | ≥ 1000 kg/m <sup>3</sup>  | ≥ 800 kg/m <sup>3</sup>   |
| Design pressure:                        | -1 bar ... 16 bar ( depending on temperature )                                  | -1 bar ... 16 bar ( depending on temperature )                                  |
| Design temperature:                     | See accuracy  | See accuracy  |
| Ingress protection class:               | IP 65   | IP 65   |
| Mounting position:                      | Vertical +/-30°   | Vertical +/-30°   |
| Accuracy                                |   |   |
| Type K.. (-30°C ... 130°C) Accuracy:    | 10 mm   | 5 / 10 / 12.7 / 15 mm   |
| Type K..HTF (-30°C ... 200°C) Accuracy: | 10 mm   | 5 / 10 / 15 mm  |
| Type K..HT (-40°C ... 250°C) Accuracy:  | 10 mm   | 5 / 10 / 15 mm  |
| Option control unit / Page 55           |   |   |
| Control unit:                           | - Programmable<br>- Hart-programmable<br>- Profibus PA<br>- Foundation Fieldbus | - Programmable<br>- Hart-programmable<br>- Profibus PA<br>- Foundation Fieldbus |
| Option temperature probe / Page 56      |   |   |
| Temperature probe:                      | Pt-100 / Pt-1000  | Pt-100 / Pt-1000  |
| Norm:                                   | IEC 751 Kl.B  | IEC 751 Kl.B  |
| Option temperature switch / Page 56     |   |   |
| Function:                               | Normally closed or normally open  | Normally closed or normally open  |
| Switching capacity:                     | Page 56   | Page 56   |
| Accuracy / Hysteresis:                  | Page 56   | Page 56   |
| Temperature / Grading:                  | Page 56   | Page 56   |

**Minimum measures**

ALE/VPFA/FE-50/16/B1-VPFA/K10-L../11-SVPFAK45/14/V  
 L1: ≥ 70 mm  
 U: 70 mm

**Approvals / Certificates**

ATEX / PED / GOST



**Minimum measures**

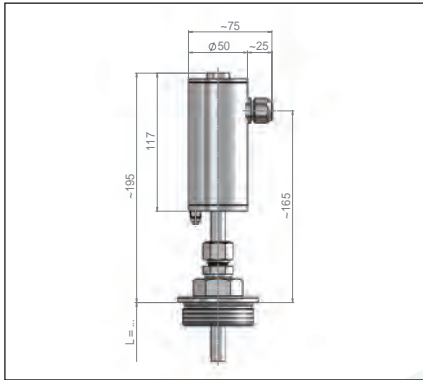
ALE/VPFA/FE-80/16/B1-VPFA/K../L../17-SVPFA73/23/V  
 L1: ≥ 70 mm  
 U: 70 mm

**Approvals / Certificates**

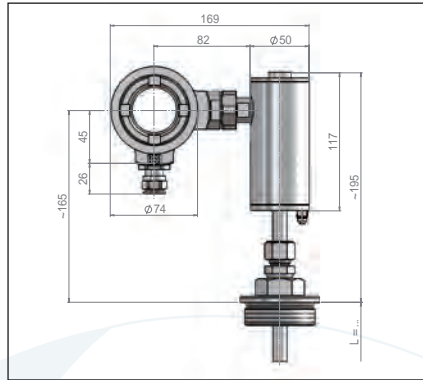
ATEX / PED / GOST

The magnetic float level transmitter are based on a modular design and can be arranged individually.  
**Type key page 10 - 13**

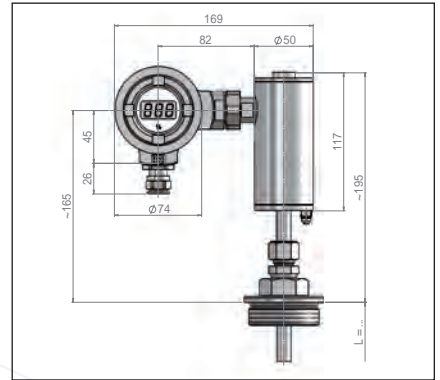
Electrical connection



Connection type: AVM  
 Material quality: Stainless steel A4 ( SS316 )  
 Cable entry: M16 x 1.5  
 Ingress protection class: IP 68  
 Ambient temperature: -40°C ... 85°C



Connection type: AVDM ( Exd )  
 Material quality: Stainless steel A4 ( SS316 )  
 Cable entry: M16 x 1.5  
 Ingress protection class: IP 68  
 Ambient temperature: -40°C ... 85°C



Connection type: DAAVDM ( Exd ) w. LED display  
 Material quality: Stainless steel A4 ( SS316 )  
 Cable entry: M16 x 1.5  
 Ingress protection class: IP 68  
 Ambient temperature: -40°C ... 85°C



Approvals / Certificates



|                              |                            |                 |                    |
|------------------------------|----------------------------|-----------------|--------------------|
| ATEX*                        |                            |                 |                    |
| II 1/2G                      | Ex ia c IIC T6 - T2        | II 1G           | Ex ia IIC T4 - T2  |
| II 1/2G                      | Ex ia IIC T6 - T2          | II 2G           | Ex d IIC T4        |
| Type of protection           | intrinsic safety Ex ia IIC | $U_i \leq 30 V$ | $I_i \leq 200 mA$  |
| Temperature class            | T6                         | T5              | T4 - T2            |
| Ambient temperature( $T_a$ ) | -20°C ... 40°C             | -20°C ... 55°C  | -20°C ... 85°C     |
| Liquid temperature( $T_l$ )  | -20°C ... 60°C             | -20°C ... 60°C  | -20°C ... 60°C     |
|                              |                            |                 | $P_i \leq 1000 mW$ |

Further process connection according to type key page 10  
 Further floats page 48 - 51

The magnetic float level transmitter are based on a modular design and can be arranged individually.  
**Type key page 10 - 13**

\* = The approval is dependent on the equipment combination

# Magnetic Float Level Transmitter / St. steel - magnetostrictive

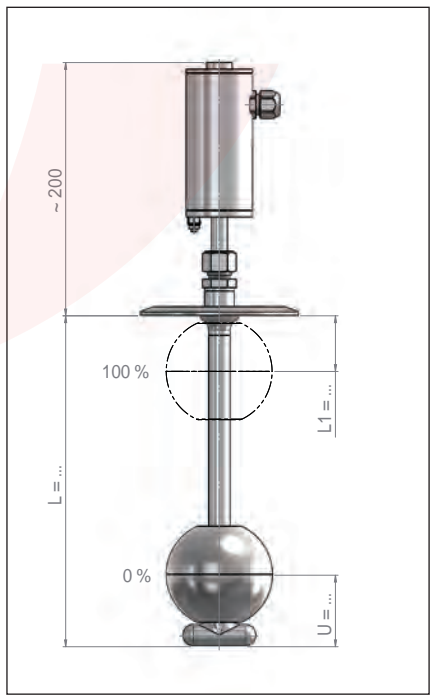
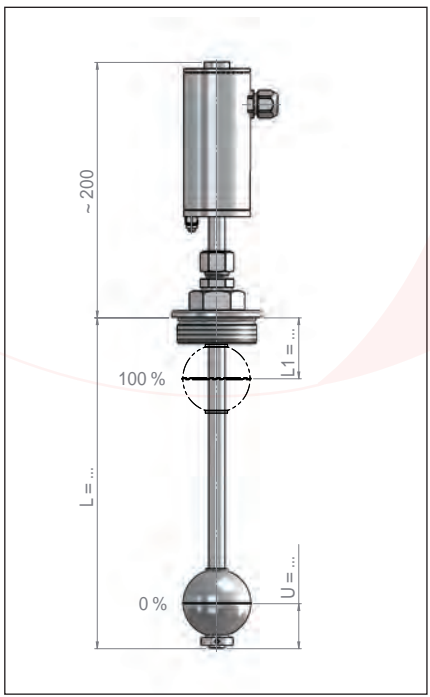
| Type                                  | AVM/V/R-2-MST-V/K1-L../12-SV52/15/V  | AVM/V/TC-...-MST-V/K1-L../16-SV3A80/23/V-3A  |
|---------------------------------------|--|--|
| Material quality:                     | 1.4404 / 1.4435 / 1.4571 (316L / 316Ti)  | 1.4404 / 1.4435 / 1.4571 (316L / 316Ti)**  |
| Electrical connection:                | Stainless steel terminal box   | Stainless steel terminal box   |
| Process connection:                   | G 2"   | Try-Clamp  |
| Guide tube:                           | Ø 12 mm  | Ø 16 mm  |
| Length of instrument:                 | ≤ 6000 mm*   | ≤ 6000 mm*   |
| Float:                                | SV52/15/V Ø 52 mm  | SV3A80/23/V Ø 80 mm  |
| Specific gravity:                     | ≥ 700 kg/m <sup>3</sup>  | ≥ 750 kg/m <sup>3</sup>  |
| Design pressure:                      | -1 bar ... 40 bar ( depending on temperature )   | -1 bar ... 40 bar ( depending on temperature )   |
| Design temperature:                   | See accuracy   | See accuracy   |
| Ingress protection class:             | IP 68  | IP 68  |
| Mounting position:                    | Vertical +/-30°  | Vertical +/-30°  |
| Accuracy                              |  |  |
| Type K1 (-40°C ... 125°C) Accuracy:   | 0.2 mm   | 0.2 mm   |
| Type K1HT (-40°C ... 250°C) Accuracy: | 0.2 mm   | 0.2 mm   |
| Control unit                          |  |  |
| Type:                                 | MST 4 ... 20 mA<br>MSTB 4 ... 20 mA / Exia ( -20°C ... 60°C )<br>MSTH HART®-Protocol<br>MSTHB HART®-Protocol / Exia ( -20°C ... 60°C ) | MST 4 ... 20 mA<br>MSTB 4 ... 20 mA / Exia ( -20°C ... 60°C )<br>MSTH HART®-Protocol<br>MSTHB HART®-Protocol / Exia ( -20°C ... 60°C ) |
| Connection:                           | 2-wire   | 2-wire   |
| Power supply:                         | 10 ... 30 VDC  | 10 ... 30 VDC  |
| Design temperature:                   | -40°C ... 85°C   | -40°C ... 85°C   |
| Option temperature switch / Page 56   |  |  |
| Function:                             | -  | -  |
| Switching capacity:                   | -  | -  |
| Accuracy / Hysteresis:                | -  | -  |
| Temperature / Grading:                | -  | -  |

**Minimum measures**  
AVM/V/R-2-MST-V/K1-L../12-SV52/15/V  
L1: ≥ 55 mm  
U: 45 mm

**Approvals / Certificates**  
ATEX / PED / GOST / IECEX / SIL2

**Minimum measures**  
AVM/V/TC-...-MST-V/K1-L../16-SV3A80/23/V-3A  
L1: ≥ 50 mm  
U: 55 mm

**Approvals / Certificates**  
ATEX / PED / GOST / IECEX / 3A / SIL2



The magnetic float level transmitter are based on a modular design and can be arranged individually.  
**Type key page 10 - 13**

\* ATEX-design = if length of instrument ≥ 4000 mm please choose different material quality for guide tube and float  
\*\* = Ra ≤ 0.4µm for all wetted parts

# Magnetic Float Level Transmitter / PVC - magnetostrictive

## Type

**AVM/P/R-2-MST-P/K1-L../16-SPK54/22/R**

**AVM/P/FE-65/10/A-MST-P/K1-L../16-SPK54/22/R**

|                           |                              |                                  |
|---------------------------|------------------------------|----------------------------------|
| Material quality:         | PVC                          | PVC                              |
| Electrical connection:    | Stainless steel terminal box | Stainless steel terminal box     |
| Process connection:       | G 2"                         | Flange EN DN 65 / PN 10 / Form A |
| Guide tube:               | Ø 16 mm                      | Ø 16 mm                          |
| Length of instrument:     | ≤ 3000 mm                    | ≤ 3000 mm                        |
| Float:                    | SPK54/22/R Ø 54 mm           | SPK54/22/R Ø 54 mm               |
| Specific gravity:         | ≥ 750 kg/m <sup>3</sup>      | ≥ 750 kg/m <sup>3</sup>          |
| Design pressure:          | -1 bar ... 1 bar             | -1 bar ... 1 bar                 |
| Design temperature:       | -15°C ... 60°C               | -15°C ... 60°C                   |
| Ingress protection class: | IP 68                        | IP 68                            |
| Mounting position:        | Vertical +/-30°              | Vertical +/-30°                  |

## Accuracy

|                                     |        |        |
|-------------------------------------|--------|--------|
| Type K1 (-40 ... 125°C) Accuracy:   | 0.2 mm | 0.2 mm |
| Type K1HT (-40 ... 250°C) Accuracy: | -      | -      |

## Control unit

|       |  |  |
|-------|--|--|
| Type: | MST 4 ... 20 mA<br>MSTH HART®-Protocol | MST 4 ... 20 mA<br>MSTH HART®-Protocol |
|-------|--|--|

|                     |                |                |
|---------------------|----------------|----------------|
| Connection:         | 2-wire         | 2-wire         |
| Power supply:       | 10 ... 30 VDC  | 10 ... 30 VDC  |
| Design temperature: | -40°C ... 85°C | -40°C ... 85°C |

## Option temperature switch / Page 56

|                        |   |   |
|------------------------|---|---|
| Function:              | - | - |
| Switching capacity:    | - | - |
| Accuracy / Hysteresis: | - | - |
| Temperature / Grading: | - | - |

## Minimum measures

AVM/P/R-2-MST-P/K1-L../16-SPK54/22/R  
L1: ≥ 65 mm  
U: 50 mm

## Approvals / Certificates

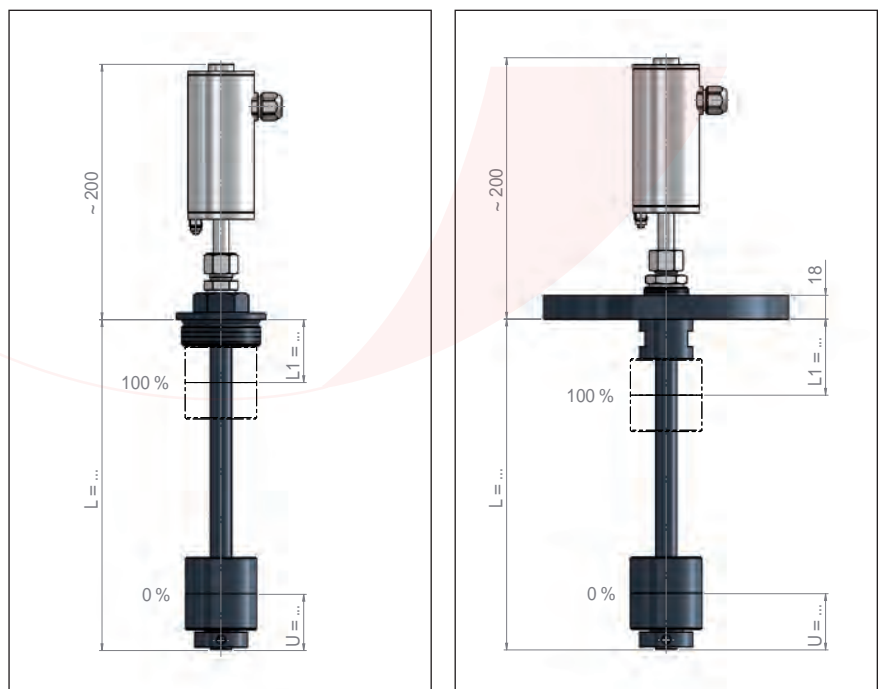
PED / GOST / SIL2

## Minimum measures

AVM/P/FE-65/10/A-MST-P/K1-L../16-SPK54/22/R  
L1: ≥ 65 mm  
U: 50 mm

## Approvals / Certificates

PED / GOST / SIL2



The Magnetic Float Level Transmitter are based on a modular design and can be arranged individually.

**Type key page 10 - 13**



| Type                      | AVM/PP/R-2-MST-PP/K1-L../16-SPPK56/21/R | AVM/PP/FE-65/10/A-MST-PP/K1-L../16-SPPK56/21/R |
|---------------------------|---|--|
| Material quality:         | Polypropylene                           | Polypropylene                                  |
| Electrical connection:    | Stainless steel terminal box            | Stainless steel terminal box                   |
| Process connection:       | G 2"                                    | Flange EN DN 65 / PN 10 / Form A               |
| Guide tube:               | Ø 16 mm                                 | Ø 16 mm  |
| Length of instrument:     | ≤ 3000 mm                               | ≤ 3000 mm                                      |
| Float:                    | SPPK56/21/R Ø 56 mm                     | SPPK56/21/R Ø 56 mm                            |
| Specific gravity:         | ≥ 600 kg/m <sup>3</sup>                 | ≥ 600 kg/m <sup>3</sup>                        |
| Design pressure:          | -1 bar ... 1 bar                        | -1 bar ... 1 bar                               |
| Design temperature:       | -10°C ... 80°C                          | -10°C ... 80°C                                 |
| Ingress protection class: | IP 68                                   | IP 68  |
| Mounting position:        | Vertical +/-30°                         | Vertical +/-30°                                |

| Accuracy                            |        |        |
|-------------------------------------|--------|--------|
| Type K1 (-40 ... 125°C) Accuracy:   | 0.2 mm | 0.2 mm |
| Type K1HT (-40 ... 250°C) Accuracy: | -      | -      |

| Control unit        |  |  |
|---------------------|--|--|
| Type:               | MST 4 ... 20 mA<br>MSTH HART®-Protocol | MST 4 ... 20 mA<br>MSTH HART®-Protocol |
| Connection:         | 2-wire                                 | 2-wire                                 |
| Power supply:       | 10 ... 30 VDC                          | 10 ... 30 VDC                          |
| Design temperature: | -40°C ... 85°C                         | -40°C ... 85°C                         |

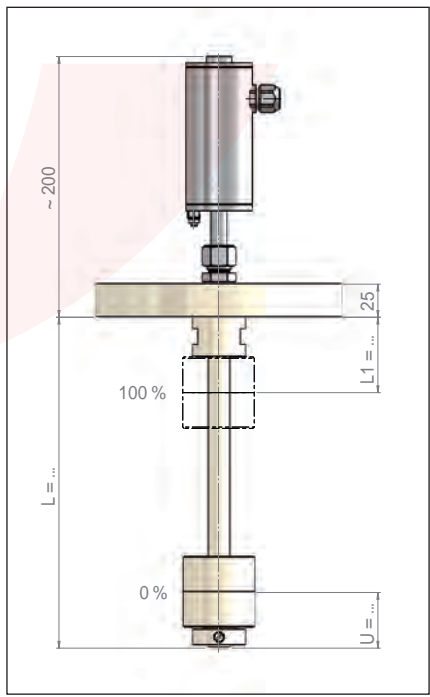
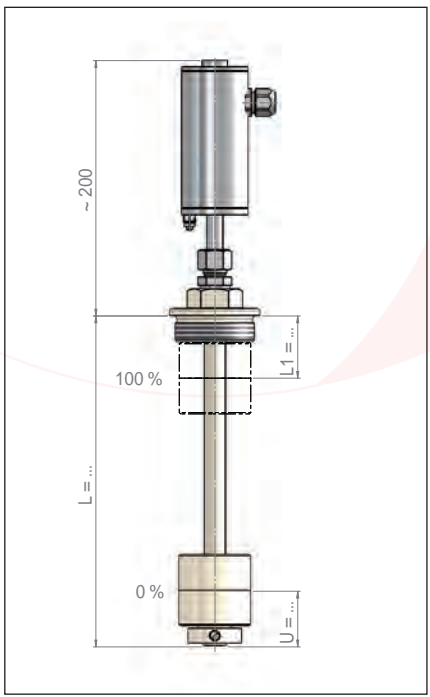
| Option temperature switch / Page 56 |   |   |
|-------------------------------------|---|---|
| Function:                           | - | - |
| Switching capacity:                 | - | - |
| Accuracy / Hysteresis:              | - | - |
| Temperature / Grading:              | - | - |

**Minimum measures**  
 AVM/PP/R-2-MST-PP/K1-L../16-SPPK56/21/R  
 L1: ≥ 65 mm  
 U: 50 mm

**Approvals / Certificates**  
 PED / WHG / SIL2

**Minimum measures**  
 AVM/PP/FE-65/10/A-MST-PP/K1-L../16-SPPK56/21/R  
 L1: ≥ 65 mm  
 U: 50 mm

**Approvals / Certificates**  
 PED / WHG / SIL2



The Magnetic Float Level Transmitter are based on a modular design and can be arranged individually.  
**Type key page 10 - 13**

# Magnetic Float Level Transmitter / PVDF - magnetostrictive

## Type

**AVM/PF/R-2-MST-PF/K1-L../16-SPFK56/21/R**

**AVM/PF/FE-65/10/A-MST-PF/K1-L../16-SPFK56/21/R**

Material quality:  
Electrical connection:  
Process connection:  
Guide tube:  
Length of instrument:  
Float:  
Specific gravity:  
Design pressure:  
Design temperature:  
Ingress protection class:  
Mounting position:

PVDF  
Stainless steel terminal box  
G 2"  
Ø 16 mm  
≤ 3000 mm  
SPFK56/21/R Ø 56 mm  
≥ 800 kg/m<sup>3</sup>  
-1 bar ... 1 bar  
-10°C ... 100°C  
IP 68  
Vertical +/-30°

PVDF  
Stainless steel terminal box  
Flange EN DN 65 / PN 10 / Form A  
Ø 16 mm  
≤ 3000 mm  
SPFK56/21/R Ø 56 mm  
≥ 800 kg/m<sup>3</sup>  
-1 bar ... 1 bar  
-10°C ... 100°C  
IP 68  
Vertical +/-30°

## Accuracy

Type K1 (-40 ... 125°C) Accuracy:  
Type K1HT (-40 ... 250°C) Accuracy:

0.2 mm  
-

0.2 mm  
-

## Control unit

### Type:

MST 4 ... 20 mA  
MSTH HART®-Protocol

MST 4 ... 20 mA  
MSTH HART®-Protocol

Connection:  
Power supply:  
Design temperature:

2-wire  
10 ... 30 VDC  
-40°C ... 85°C

2-wire  
10 ... 30 VDC  
-40°C ... 85°C

## Option temperature switch / Page 56

Function:  
Switching capacity:  
Accuracy / Hysteresis:  
Temperature / Grading:

-  
-  
-  
-

-  
-  
-  
-

## Minimum measures

AVM/PF/R-2-MST-PF/K1-L../16-SPFK56/21/R  
L1: ≥ 65 mm  
U: 50 mm

## Approvals / Certificates

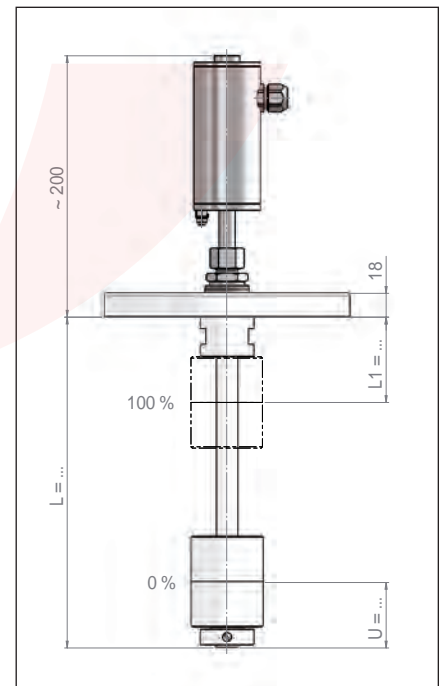
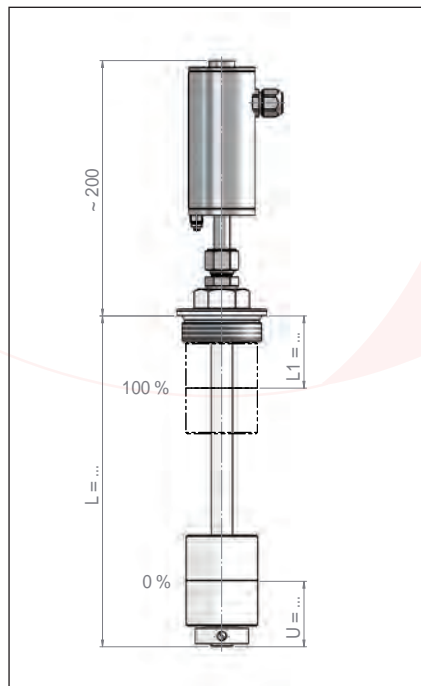
PED / GOST / SIL2

## Minimum measures

AVM/PF/FE-65/10/A-MST-PF/K1-L../16-SPFK56/21/R  
L1: ≥ 65 mm  
U: 50 mm

## Approvals / Certificates

PED / GOST / SIL2



The Magnetic Float Level Transmitter are based on a modular design and can be arranged individually.

**Type key page 10 - 13**

# Magnetic Float Level Transmitter / coated - magnetostrictive

**Type**

**AVM/VEEC/FE-80/16/B1-MST-VEEC/K1-L../17-SVEEC73/23/V**

**AVM/VPFA/FE-80/16/B1-MST-VPFA/K1-L../17-SVPFA73/23/V**

Material quality:  
Electrical connection:  
Process connection:  
Guide tube:  
Length of instrument:  
Float:  
Specific gravity:  
Design pressure:  
Design temperature:  
Ingress protection class:  
Mounting position:

Stainless steel ECTFE coated  
Stainless steel terminal box  
Flange EN DN 80 / PN 16 / Form B1  
Ø 17 mm  
≤ 3000 mm  
SVEEC73/23/V Ø 73 mm  
≥ 750 kg/m³  
-1 bar ... 16 bar ( depending on temperature )  
-40°C ... 150°C  
IP 68  
Vertical +/-30°

Stainless steel PFA coated  
Stainless steel terminal box  
Flange EN DN 80 / PN 16 / Form B1  
Ø 17 mm  
≤ 3000 mm  
SVPFA73/23/V Ø 73 mm  
≥ 800 kg/m³  
-1 bar ... 16 bar ( depending on temperature )  
See accuracy  
IP 68  
Vertical +/-30°

**Accuracy**

Type K1 (-40 ... 125°C) Accuracy:  
Type K1HT (-40 ... 250°C) Accuracy:

0.2 mm  
0.2 mm

0.2 mm  
0.2 mm

**Control unit**

Type:

MST 4 ... 20 mA  
MSTB 4 ... 20 mA / Exia ( -20°C ... 60°C )  
MSTH HART®-Protocol  
MSTHB HART®-Protocol / Exia ( -20°C ... 60°C )

MST 4 ... 20 mA  
MSTB 4 ... 20 mA / Exia ( -20°C ... 60°C )  
MSTH HART®-Protocol  
MSTHB HART®-Protocol / Exia ( -20°C ... 60°C )

Connection:  
Power supply:  
Design temperature:

2-wire  
10 ... 30 VDC  
-40°C ... 85°C

2-wire  
10 ... 30 VDC  
-40°C ... 85°C

**Option temperature switch / Page 56**

Function:  
Switching capacity:  
Accuracy / Hysteresis:  
Temperature / Grading:

-  
-  
-  
-

-  
-  
-  
-

**Minimum measures**

AVM/VEEC/FE-80/16/B1-MST-VEEC/K1-L../17-SVEEC73/23/V  
L1: ≥ 70 mm  
U: 70 mm

**Approvals / Certificates**

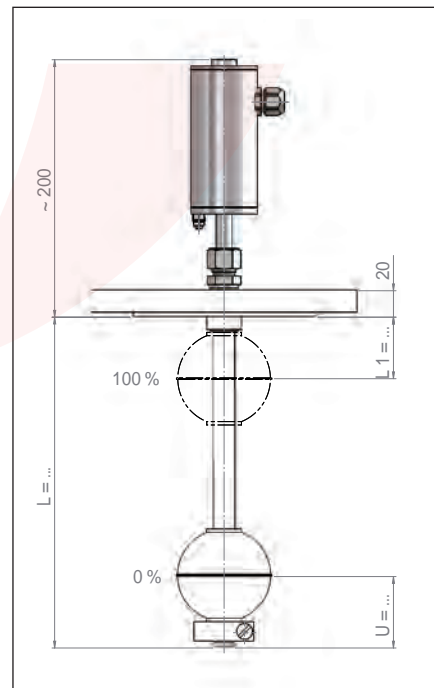
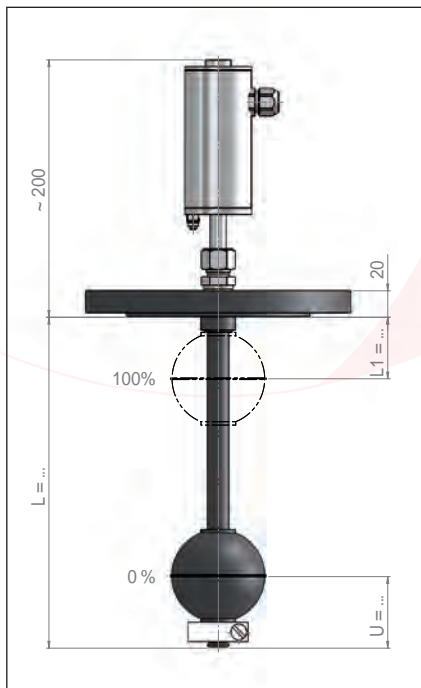
ATEX / PED / GOST / WHG / SIL2

**Minimum measures**

AVM/VPFA/FE-80/16/B1-MST-VPFA/K1-L../17-SVPFA73/23/V  
L1: ≥ 70 mm  
U: 70 mm

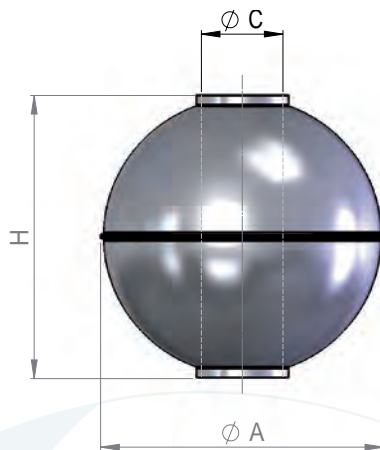
**Approvals / Certificates**

ATEX / PED / GOST / SIL2



The Magnetic Float Level Transmitter are based on a modular design and can be arranged individually.

**Type key page 10 - 13**

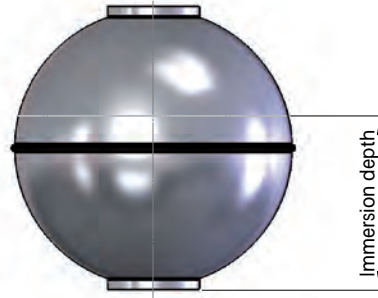


| Type            | Material quality | ø A | H    | ø C | Min. Specific gravity | Min. / Max. Design pressure | Min. / Max. Design temperature | Min. L1 | Min. U | Min. Float distance | Weight |
|-----------------|------------------|-----|------|-----|-----------------------|-----------------------------|--------------------------------|---------|--------|---------------------|--------|
|                 |                  | mm  | mm   | mm  | kg/m <sup>3</sup>     | bar                         | °C                             | mm      | mm     | mm                  | g      |
| SV52/15/V       | Stainless steel  | 52  | 52   | 15  | 700                   | -1 ... 40*                  | -156 ... 250                   | 55      | 45     | 70                  | 37     |
| SV62/15/V       | Stainless steel  | 62  | 62   | 15  | 600                   | -1 ... 25*                  | -156 ... 250                   | 60      | 50     | 80                  | 58     |
| SV72/15/V       | Stainless steel  | 72  | 71,5 | 15  | 530                   | -1 ... 25*                  | -156 ... 250                   | 65      | 50     | 90                  | 83     |
| SV83/15/V       | Stainless steel  | 83  | 82   | 15  | 400                   | -1 ... 25*                  | -156 ... 250                   | 70      | 55     | 100                 | 88     |
| SV72/24/V       | Stainless steel  | 72  | 70   | 24  | 620                   | -1 ... 25*                  | -156 ... 250                   | 60      | 60     | 90                  | 86     |
| SV80/23/V       | Stainless steel  | 80  | 75   | 23  | 620                   | -1 ... 25*                  | -156 ... 250                   | 70      | 60     | 95                  | 105    |
| SV3A80/23/V     | Stainless steel  | 80  | 73   | 23  | 750                   | -1 ... 40*                  | -156 ... 250                   | 50      | 55     | 100                 | 145    |
| SV98/23/V       | Stainless steel  | 98  | 96   | 23  | 570                   | -1 ... 25*                  | -156 ... 250                   | 80      | 70     | 115                 | 210    |
| SV205/56/R      | Stainless steel  | 205 | 198  | 56  | 400                   | -1 ... 6                    | -156 ... 200                   | 110     | 140    | 250                 | 1260   |
| SV300/56/R      | Stainless steel  | 300 | 110  | 56  | 500                   | -1 ... 3                    | -156 ... 200                   | 70      | 90     | 160                 | 1700   |
| STIS44/12/V     | Titanium         | 44  | 44   | 12  | 780                   | -1 ... 100*                 | -10 ... 250                    | 50      | 40     | 60                  | 25     |
| STI52/14/V      | Titanium         | 52  | 52   | 14  | 600                   | -1 ... 25                   | -10 ... 150                    | 55      | 45     | 70                  | 32     |
| STIS52/15/V     | Titanium         | 52  | 52   | 15  | 780                   | -1 ... 150*                 | -10 ... 250                    | 55      | 45     | 70                  | 42     |
| STI62/14/V      | Titanium         | 62  | 62   | 14  | 450                   | -1 ... 25                   | -10 ... 150                    | 60      | 50     | 80                  | 41     |
| STI82/14/V      | Titanium         | 82  | 80   | 14  | 500                   | -1 ... 16                   | -10 ... 150                    | 70      | 55     | 100                 | 108    |
| SHC62/15/V      | Alloy C          | 62  | 62   | 15  | 700                   | -1 ... 25*                  | -196 ... 250                   | 60      | 50     | 80                  | 65     |
| SHC82/15/V      | Alloy C          | 82  | 81   | 15  | 500                   | -1 ... 16*                  | -196 ... 250                   | 70      | 55     | 100                 | 95     |
| SHC72/24/V      | Alloy C          | 72  | 70   | 24  | 830                   | -1 ... 25*                  | -196 ... 250                   | 60      | 60     | 90                  | 116    |
| SHC80/23/V      | Alloy C          | 80  | 75   | 23  | 730                   | -1 ... 18*                  | -196 ... 250                   | 70      | 60     | 95                  | 125    |
| SHC98/23/V      | Alloy C          | 98  | 96   | 23  | 550                   | -1 ... 16*                  | -196 ... 250                   | 80      | 70     | 115                 | 208    |
| SVEECA53/14/V   | ECTFE coated     | 53  | 53   | 14  | 850                   | -1 ... 30                   | -78 ... 150                    | 70      | 70     | 80                  | 46     |
| SVEECB53/14/V** | ECTFE coated     | 53  | 53   | 14  | 850                   | -1 ... 30                   | -78 ... 150                    | 70      | 70     | 80                  | 46     |
| SVEECA73/23/V   | ECTFE coated     | 73  | 71   | 23  | 750                   | -1 ... 25                   | -78 ... 150                    | 70      | 70     | 105                 | 105    |
| SVEECB73/23/V** | ECTFE coated     | 73  | 71   | 23  | 750                   | -1 ... 25                   | -78 ... 150                    | 70      | 70     | 105                 | 105    |
| SVEECA81/22/V   | ECTFE coated     | 81  | 76   | 22  | 700                   | -1 ... 25                   | -78 ... 150                    | 75      | 75     | 110                 | 127    |
| SVEECB81/22/V** | ECTFE coated     | 81  | 76   | 22  | 700                   | -1 ... 25                   | -78 ... 150                    | 75      | 75     | 110                 | 127    |
| SVPFAA53/14/V   | PFA coated       | 53  | 53   | 14  | 900                   | -1 ... 30*                  | -100 ... 250                   | 70      | 70     | 80                  | 49     |
| SVPFAB53/14/V** | PFA coated       | 53  | 53   | 14  | 900                   | -1 ... 30*                  | -100 ... 250                   | 70      | 70     | 80                  | 49     |
| SVPFAA73/23/V   | PFA coated       | 73  | 71   | 23  | 800                   | -1 ... 25*                  | -100 ... 250                   | 70      | 70     | 105                 | 110    |
| SVPFAB73/23/V** | PFA coated       | 73  | 71   | 23  | 800                   | -1 ... 25*                  | -100 ... 250                   | 70      | 70     | 105                 | 110    |
| SVPFAA81/22/V   | PFA coated       | 81  | 76   | 22  | 750                   | -1 ... 25*                  | -100 ... 250                   | 75      | 75     | 110                 | 132    |
| SVPFAB81/22/V** | PFA coated       | 81  | 76   | 22  | 750                   | -1 ... 25*                  | -100 ... 250                   | 75      | 75     | 110                 | 132    |

The magnetic float level transmitter are based on a modular design and can be arranged individually.

**Type key page 10 - 13**

\* = Design temperature 200°C, higher temperatures after calculating / \*\* = acc. to Atex (conductive)



| Type                  | Specific gravity kg/m <sup>3</sup> |       |       |      |      |      |      |      |      |      |      |      |
|-----------------------|------------------------------------|-------|-------|------|------|------|------|------|------|------|------|------|
|                       | 400                                | 500   | 600   | 700  | 800  | 900  | 1000 | 1100 | 1200 | 1300 | 1400 | 1500 |
| Immersion depth in mm |                                    |       |       |      |      |      |      |      |      |      |      |      |
| SV52/15/V             |                                    |       |       | 41,3 | 35,8 | 32,4 | 29,9 | 28,0 | 26,4 | 25,1 | 23,9 | 23,0 |
| SV62/15/V             |                                    |       | 50,6  | 42,7 | 38,2 | 35,0 | 32,6 | 30,5 | 28,9 | 27,5 | 26,3 | 25,2 |
| SV72/15/V             |                                    |       | 51,1  | 44,8 | 40,5 | 37,3 | 34,8 | 32,8 | 31,0 | 29,6 | 28,3 | 27,2 |
| SV83/15/V             | 61,3                               | 50,2  | 44,1  | 39,7 | 36,5 | 33,9 | 31,8 | 30,1 | 28,6 | 27,3 | 26,2 | 25,2 |
| SV72/24/V             |                                    |       |       | 50,6 | 45,2 | 41,4 | 38,6 | 36,2 | 34,3 | 32,7 | 31,3 | 30,1 |
| SV80/23/V             |                                    |       |       | 52,1 | 46,8 | 43,0 | 40,0 | 37,6 | 35,7 | 34,0 | 32,5 | 31,2 |
| SV3A80/23/V           |                                    |       |       |      | 54,5 | 49,7 | 46,0 | 43,1 | 40,7 | 38,7 | 37,0 | 35,5 |
| SV98/23/V             |                                    |       | 71,4  | 62,3 | 56,3 | 51,8 | 48,3 | 45,4 | 43,0 | 41,0 | 39,2 | 37,7 |
| SV205/56/R            | 149,5                              | 123,8 | 108,8 | 98,4 | 90,6 | 84,5 | 79,4 | 75,3 | 71,7 | 68,6 | 65,9 | 63,5 |
| SV300/56/R            |                                    | 70,0  | 60,0  | 55,0 | 50,0 | 45,0 | 43,0 | 40,0 | 38,0 | 37,0 | 36,0 | 35,0 |
| STIS44/12/V           |                                    |       |       |      | 34,0 | 30,0 | 27,5 | 25,6 | 24,0 | 22,7 | 21,7 | 20,7 |
| STI52/14/V            |                                    |       | 40,8  | 34,9 | 31,3 | 28,7 | 26,7 | 25,1 | 23,8 | 22,6 | 21,7 | 20,8 |
| STIS52/15/V           |                                    |       |       |      | 40,9 | 36,1 | 33,0 | 30,6 | 28,8 | 27,2 | 25,9 | 24,8 |
| STI62/14/V            |                                    | 41,9  | 36,2  | 32,5 | 29,7 | 27,6 | 25,9 | 24,5 | 23,2 | 22,2 | 21,3 | 20,5 |
| STI82/14/V            |                                    | 59,7  | 51,0  | 45,5 | 41,5 | 38,4 | 35,9 | 33,9 | 32,1 | 30,6 | 29,3 | 28,2 |
| SHC62/15/V            |                                    |       |       | 43,0 | 42,0 | 38,1 | 36,2 | 33,0 | 31,1 | 29,5 | 28,2 | 27,0 |
| SHC82/15/V            |                                    | 53,5  | 46,5  | 41,8 | 38,3 | 35,6 | 33,3 | 31,5 | 29,9 | 28,6 | 27,4 | 26,3 |
| SHC72/24/V            |                                    |       |       |      |      | 53,0 | 48,1 | 44,5 | 41,8 | 39,5 | 37,6 | 36,0 |
| SHC80/23/V            |                                    |       |       |      | 54,0 | 48,9 | 45,1 | 42,2 | 39,8 | 37,8 | 36,1 | 34,6 |
| SHC98/23/V            |                                    |       | 70,7  | 61,8 | 55,9 | 51,5 | 48,0 | 45,2 | 42,8 | 40,7 | 39,0 | 37,4 |
| SVEECA53/14/V         |                                    |       |       |      |      | 37,1 | 33,9 | 31,4 | 29,5 | 27,9 | 26,6 | 25,4 |
| SVEECB53/14/V**       |                                    |       |       |      |      | 37,1 | 33,9 | 31,4 | 29,5 | 27,9 | 26,6 | 25,4 |
| SVEECA73/23/V         |                                    |       |       |      | 51,5 | 46,5 | 43,0 | 40,2 | 37,9 | 36,0 | 34,4 | 33,0 |
| SVEECB73/23/V**       |                                    |       |       |      | 51,5 | 46,5 | 43,0 | 40,2 | 37,9 | 36,0 | 34,4 | 33,0 |
| SVEECA81/22/V         |                                    |       |       | 60,3 | 52,8 | 48,0 | 44,4 | 41,6 | 39,3 | 37,3 | 35,6 | 34,2 |
| SVEECB81/22/V**       |                                    |       |       | 60,3 | 52,8 | 48,0 | 44,4 | 41,6 | 39,3 | 37,3 | 35,6 | 34,2 |
| SVPFAA53/14/V         |                                    |       |       |      |      | 39,6 | 35,7 | 33,0 | 30,9 | 29,2 | 27,7 | 26,5 |
| SVPFAB53/14/V**       |                                    |       |       |      |      | 39,6 | 35,7 | 33,0 | 30,9 | 29,2 | 27,7 | 26,5 |
| SVPFAA73/23/V         |                                    |       |       |      | 53,8 | 48,3 | 44,5 | 41,5 | 39,1 | 37,1 | 35,4 | 33,9 |
| SVPFAB73/23/V**       |                                    |       |       |      | 53,8 | 48,3 | 44,5 | 41,5 | 39,1 | 37,1 | 35,4 | 33,9 |
| SVPFAA81/22/V         |                                    |       |       |      | 54,7 | 49,5 | 45,7 | 42,7 | 40,3 | 38,3 | 36,5 | 35,0 |
| SVPFAB81/22/V**       |                                    |       |       |      | 54,7 | 49,5 | 45,7 | 42,7 | 40,3 | 38,3 | 36,5 | 35,0 |

The magnetic float level transmitter are based on a modular design and can be arranged individually.

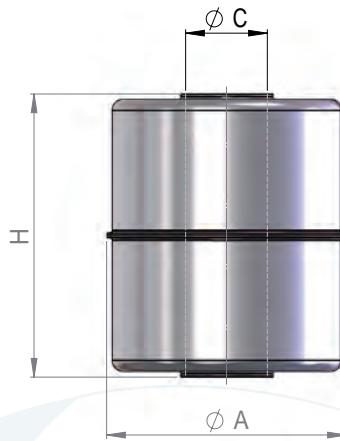
**Type key page 10 - 13**

\* = Design temperature 200°C, higher temperatures after calculating / \*\* = acc. to Atex (conductive)



# Magnetic Float Level Transmitter / Cylindrical float

1001

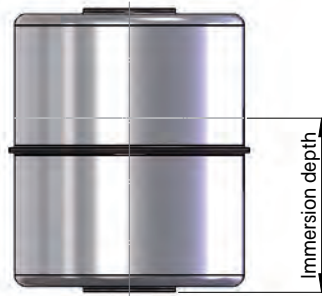


| Type             | Material quality | ø A | H   | ø C | Min. Specific gravity | Min. / Max. Design pressure | Min. / Max. Design temperature | Min. L1 | Min. U | Min. Float distance | Weight |
|------------------|------------------|-----|-----|-----|-----------------------|-----------------------------|--------------------------------|---------|--------|---------------------|--------|
|                  |                  | mm  | mm  | mm  | kg/m <sup>3</sup>     | bar                         | °C                             | mm      | mm     | mm                  | g      |
| SVK44/15/V       | Stainless steel  | 44  | 52  | 15  | 800                   | -1 ... 25*                  | -156 ... 250                   | 50      | 45     | 70                  | 42     |
| STIK44/14/V      | Titanium         | 44  | 52  | 14  | 750                   | -1 ... 15                   | -10 ... 150                    | 50      | 45     | 70                  | 35     |
| SHCK44/15/V      | Alloy C          | 44  | 52  | 15  | 1000                  | -1 ... 45*                  | -196 ... 250                   | 50      | 45     | 70                  | 52     |
| SB30/13/R        | NBR              | 30  | 45  | 13  | 700                   | -1 ... 6                    | -20 ... 80                     | 20      | 65     | 60                  | 16     |
| SB40/14/R        | NBR              | 40  | 120 | 14  | 420                   | -1 ... 6                    | -20 ... 80                     | 25      | 140    | 150                 | 45     |
| SB40/15/R        | NBR              | 40  | 30  | 15  | 700                   | -1 ... 6                    | -20 ... 80                     | 25      | 50     | 45                  | 17     |
| SB50/20/R        | NBR              | 50  | 45  | 20  | 1000                  | -1 ... 6                    | -20 ... 80                     | 30      | 70     | 60                  | 65     |
| SPK42/14/R       | PVC              | 42  | 44  | 14  | 800                   | -1 ... 1                    | -15 ... 60                     | 50      | 40     | 65                  | 32     |
| SPK54/22/R       | PVC              | 54  | 55  | 22  | 750                   | -1 ... 1                    | -15 ... 60                     | 65      | 50     | 75                  | 64     |
| SPK78/25/R       | PVC              | 78  | 80  | 25  | 600                   | -1 ... 1                    | -15 ... 60                     | 80      | 65     | 100                 | 164    |
| SPPK44/13/R      | PP               | 44  | 43  | 13  | 700                   | -1 ... 1                    | -10 ... 80                     | 50      | 40     | 65                  | 25     |
| SPPK44/21/V      | PP               | 44  | 69  | 21  | 800                   | -1 ... 1                    | -10 ... 80                     | 50      | 55     | 90                  | 45     |
| SPPK56/21/R      | PP               | 56  | 54  | 21  | 600                   | -1 ... 1                    | -10 ... 80                     | 65      | 50     | 75                  | 50     |
| SPPK80/24/R      | PP               | 80  | 79  | 24  | 500                   | -1 ... 1                    | -10 ... 80                     | 80      | 65     | 100                 | 126    |
| SPFK44/13/R      | PVDF             | 44  | 55  | 13  | 850                   | -1 ... 1                    | -10 ... 100                    | 50      | 55     | 70                  | 46     |
| SPFK56/21/R      | PVDF             | 56  | 69  | 21  | 800                   | -1 ... 1                    | -10 ... 100                    | 65      | 60     | 90                  | 90     |
| SPFK80/24/V      | PVDF             | 80  | 79  | 24  | 700                   | -1 ... 1                    | -10 ... 100                    | 80      | 65     | 100                 | 192    |
| SVEECKA45/14/V   | ECTFE coated     | 45  | 53  | 14  | 950                   | -1 ... 25                   | -78 ... 150                    | 70      | 70     | 80                  | 53     |
| SVEECKB45/14/V** | ECTFE coated     | 45  | 53  | 14  | 950                   | -1 ... 25                   | -78 ... 150                    | 70      | 70     | 80                  | 53     |
| SVPFAKA45/14/V   | PFA coated       | 45  | 53  | 14  | 1000                  | -1 ... 25*                  | -100 ... 250                   | 70      | 70     | 80                  | 56     |
| SVPFAKB45/14/V** | PFA coated       | 45  | 53  | 14  | 1000                  | -1 ... 25*                  | -100 ... 250                   | 70      | 70     | 80                  | 56     |

The magnetic float level transmitter are based on a modular design and can be arranged individually.

**Type key page 10 - 13**

\* = Design temperature 200°C, higher temperatures after calculating / \*\* = acc. to Atex (conductive)



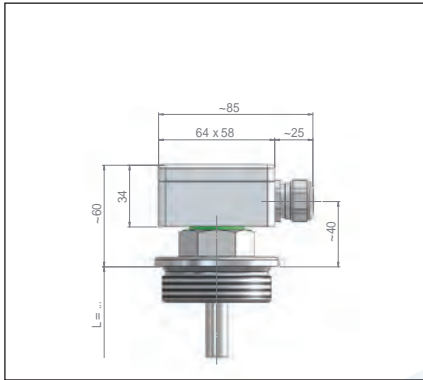
| Type                  | Specific gravity kg/m <sup>3</sup> |      |      |      |      |      |      |      |      |      |      |      |
|-----------------------|------------------------------------|------|------|------|------|------|------|------|------|------|------|------|
|                       | 400                                | 500  | 600  | 700  | 800  | 900  | 1000 | 1100 | 1200 | 1300 | 1400 | 1500 |
| Immersion depth in mm |                                    |      |      |      |      |      |      |      |      |      |      |      |
| SVK44/15/V            |                                    |      |      |      | 43,4 | 38,6 | 34,7 | 31,6 | 29,0 | 26,7 | 24,8 | 23,2 |
| STIK44/14/V           |                                    |      |      |      | 35,5 | 31,6 | 28,4 | 25,8 | 23,7 | 21,9 | 20,3 | 18,9 |
| SHCK44/15/V           |                                    |      |      |      |      |      | 43,0 | 39,1 | 35,9 | 33,1 | 30,7 | 28,7 |
| SB30/13/R             |                                    |      |      | 39,8 | 34,8 | 31,0 | 27,9 | 25,3 | 23,2 | 21,4 | 19,9 | 18,6 |
| SB40/14/R             | 103,0                              | 86,7 | 72,2 | 61,9 | 54,2 | 48,1 | 43,3 | 39,4 | 36,1 | 33,3 | 31,0 | 28,9 |
| SB40/15/R             |                                    |      |      | 22,5 | 19,7 | 17,5 | 15,7 | 14,3 | 13,1 | 12,1 | 11,1 | 10,5 |
| SB50/20/R             |                                    |      |      |      |      |      | 39,4 | 35,8 | 32,8 | 30,3 | 28,1 | 26,3 |
| SPK42/14/R            |                                    |      |      |      | 32,5 | 28,9 | 26,0 | 23,6 | 21,7 | 20,0 | 18,6 | 17,3 |
| SPK54/22/R            |                                    |      |      |      | 41,9 | 37,2 | 33,5 | 30,5 | 27,9 | 25,8 | 23,9 | 22,3 |
| SPK78/25/R            |                                    |      | 63,8 | 54,6 | 47,8 | 42,5 | 38,3 | 34,8 | 31,9 | 29,4 | 27,3 | 25,5 |
| SPPK44/13/R           |                                    |      |      | 29,0 | 25,4 | 22,6 | 20,3 | 18,5 | 16,9 | 15,6 | 14,5 | 13,5 |
| SPPK44/21/V           |                                    |      |      |      | 56,0 | 49,7 | 44,8 | 40,7 | 37,3 | 34,4 | 32,0 | 29,8 |
| SPPK56/21/R           |                                    |      | 43,6 | 37,4 | 32,7 | 29,1 | 26,2 | 23,8 | 21,8 | 20,1 | 18,7 | 17,5 |
| SPPK80/24/R           |                                    | 58,8 | 49,0 | 42,0 | 36,7 | 32,7 | 29,4 | 26,7 | 24,5 | 22,6 | 21,0 | 19,6 |
| SPFK44/13/R           |                                    |      |      |      |      | 41,5 | 37,4 | 34,0 | 31,1 | 28,7 | 26,7 | 24,9 |
| SPFK56/21/R           |                                    |      |      |      | 58,9 | 52,4 | 47,1 | 42,8 | 39,3 | 36,2 | 33,7 | 31,4 |
| SPFK80/24/V           |                                    |      | 64,0 | 56,0 | 49,8 | 44,8 | 40,7 | 37,3 | 34,4 | 32,0 | 29,9 |      |
| SVEECKA45/14/V        |                                    |      |      |      |      |      | 40,8 | 37,1 | 34,0 | 31,4 | 29,2 | 27,2 |
| SVEECKB45/14/V**      |                                    |      |      |      |      |      | 40,8 | 37,1 | 34,0 | 31,4 | 29,2 | 27,2 |
| SVPFAKA45/14/V        |                                    |      |      |      |      |      | 43,1 | 39,2 | 35,9 | 33,2 | 30,8 | 28,8 |
| SVPFAKB45/14/V**      |                                    |      |      |      |      |      | 43,1 | 39,2 | 35,9 | 33,2 | 30,8 | 28,8 |

The magnetic float level transmitter are based on a modular design and can be arranged individually.

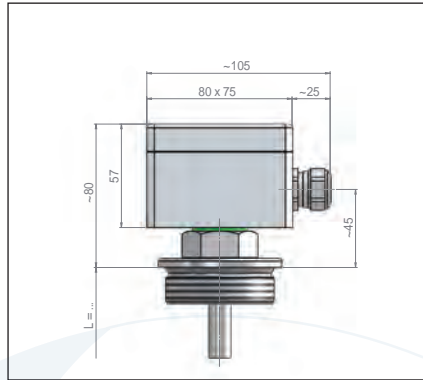
**Type key page 10 - 13**

\* = Design temperature 200°C, higher temperatures after calculating / \*\* = acc. to Atex (conductive)

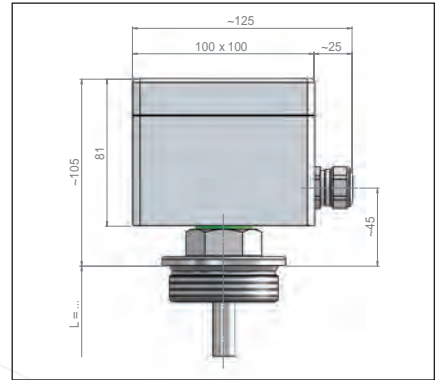
Electrical connection



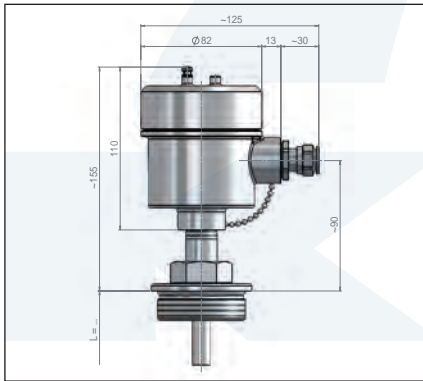
Connection type: ALE  
 Material quality: Aluminium coated RAL 7001  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 100°C



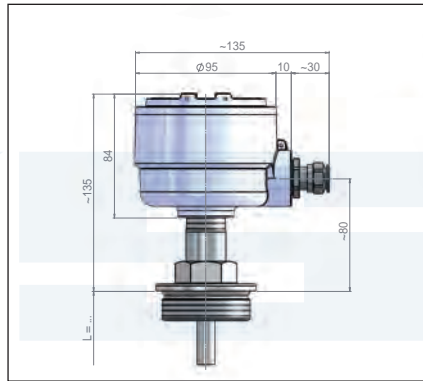
Connection type: ALF  
 Material quality: Aluminium coated RAL 7001  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 100°C



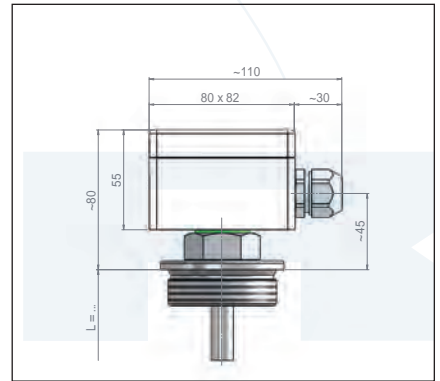
Connection type: ALG  
 Material quality: Aluminium coated RAL 7001  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 100°C



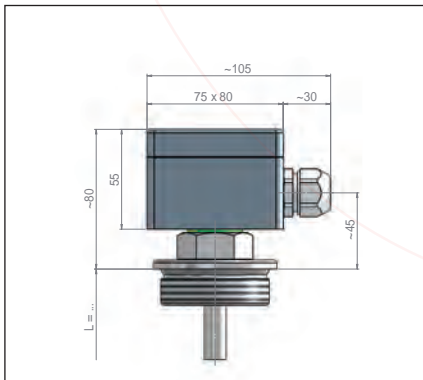
Connection type: AVA / AVDA ( Exd )  
 Material quality: Stainless steel A4 ( SS316 )  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 67 / ( Exd / IP68 )  
 Ambient temperature: -40°C ... 85°C



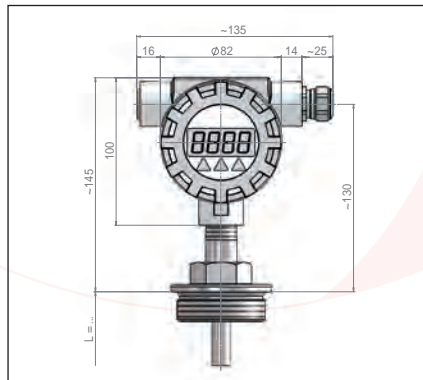
Connection type: ALDA ( Exd )  
 Material quality: Aluminium coated RAL 9006  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 68  
 Ambient temperature: -40°C ... 100°C



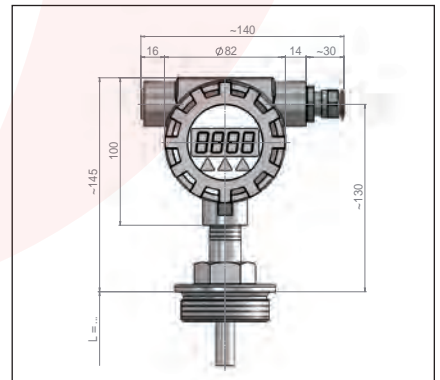
Connection type: ABA  
 Material quality: ABS  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -10°C ... 80°C



Connection type: APA / APB ( Ex )  
 Material quality: Polyester  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -10°C ... 100°C



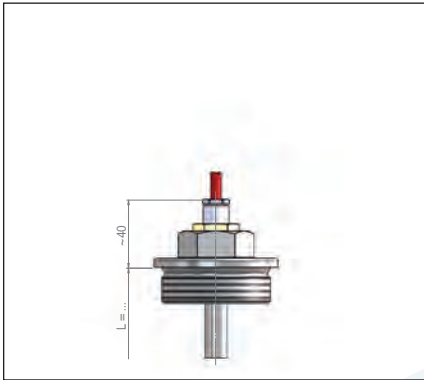
Connection type: DAALA  
 Material quality: Aluminium  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 60°C  
 Display: 4-digit 7-segment LED display in red  
 Display range: Free scaling  
 Current input: 4 ... 20 mA



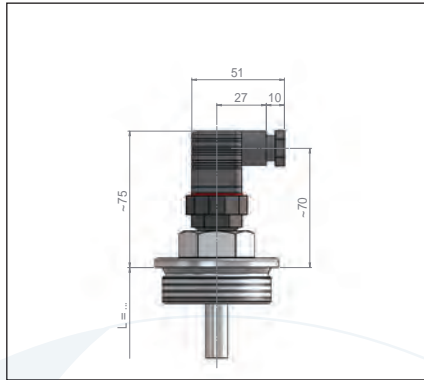
Connection type: DAAVDA  
 Material quality: Stainless steel electropolished  
 Cable entry: M20 x 1.5  
 Ingress protection class: IP 68  
 Ambient temperature: -40°C ... 60°C  
 Display: 4-digit 7-segment LED display in red  
 Display range: Free scaling  
 Current input: 4 ... 20 mA

The magnetic float level transmitter are based on a modular design and can be arranged individually.  
**Type key page 10 - 13**

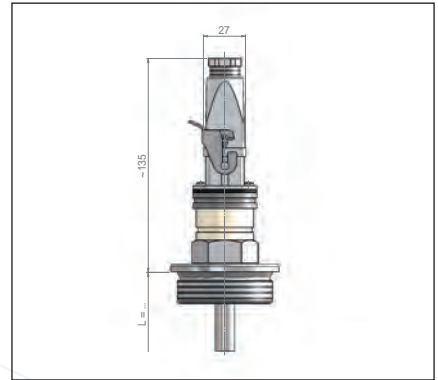
Electrical connection



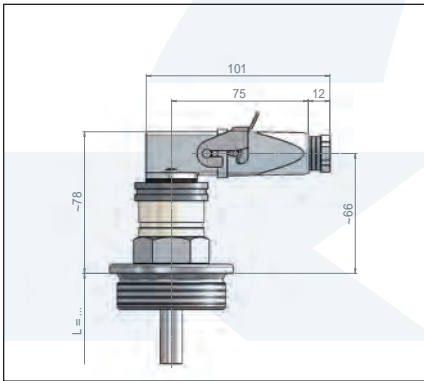
Connection type: K  
 Material quality: According as cable type  
 Cable entry: PG or metric  
 Ingress protection class: IP 55 ( optional IP 68 )  
 Ambient temperature: -40°C ... 200°C



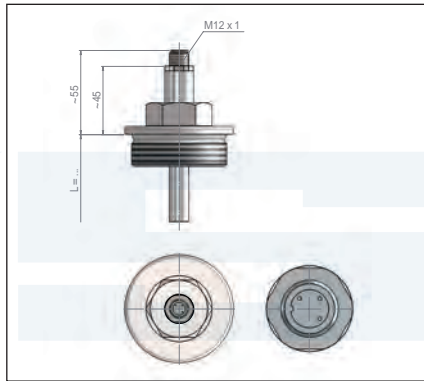
Connection type: ASH  
 Material quality: PA  
 Cable entry: M16  
 Ingress protection class: IP 65  
 Ambient temperature: -40°C ... 125°C



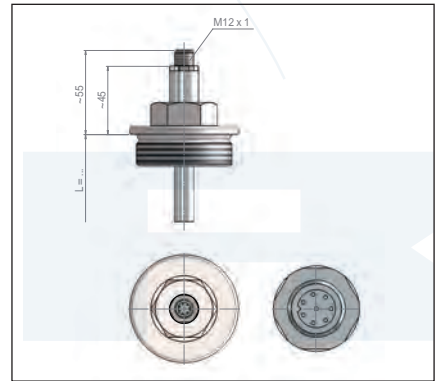
Connection type: ASHAA / ASHBA ( Aluminium )  
 Material quality: Plastic / Aluminium  
 Cable entry: PG11  
 Ingress protection class: IP 65  
 Ambient temperature: -10°C ... 80°C



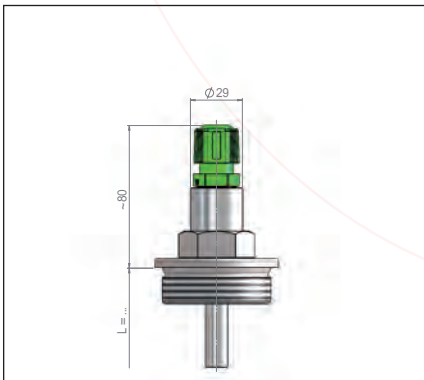
Connection type: ASHAB / ASHBB ( Aluminium )  
 Material quality: Plastic / Aluminium  
 Cable entry: PG11  
 Ingress protection class: IP 65  
 Ambient temperature: -10°C ... 80°C



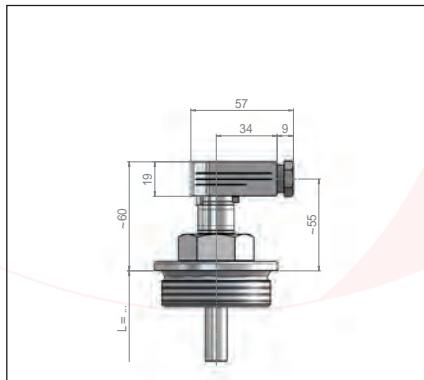
Connection type: ASMA  
 Material quality: Brass / PA  
 Connector: M12  
 Ingress protection class: IP 67  
 Ambient temperature: -25°C ... 90°C



Connection type: ASMB  
 Material quality: Brass / PA  
 Connector: M12  
 Ingress protection class: IP 67  
 Ambient temperature: -25°C ... 90°C



Connection type: ASQ  
 Material quality: PA  
 Cable entry: PG11  
 Ingress protection class: IP 67  
 Ambient temperature: -25°C ... 85°C

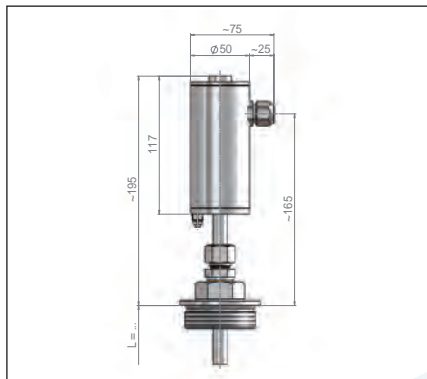


Connection type: ASC  
 Material quality: Zinc cast  
 Cable entry: PG9  
 Ingress protection class: IP 65  
 Ambient temperature: -10°C ... 125°C

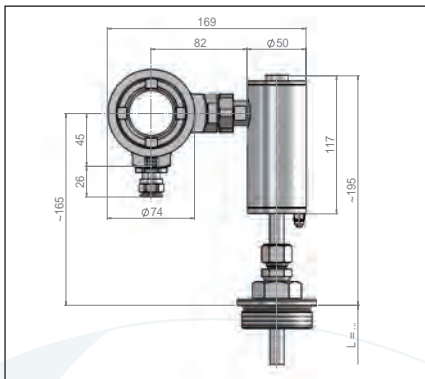
The magnetic float level transmitter are based on a modular design and can be arranged individually.

Type key page 10 - 13

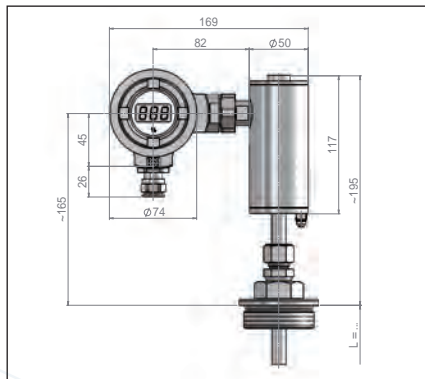
Electrical connection ( only magnetostrictive )



Connection type: AVM  
 Material quality: Stainless steel A4 ( SS316 )  
 Cable entry: M16 x 1.5  
 Ingress protection class: IP 68  
 Ambient temperature: -40°C ... 85°C



Connection type: AVDM ( Exd )  
 Material quality: Stainless steel A4 ( SS316 )  
 Cable entry: M16 x 1.5  
 Ingress protection class: IP 68  
 Ambient temperature: -40°C ... 85°C



Connection type: DAAVDM ( Exd ) w. LED display  
 Material quality: Stainless steel A4 ( SS316 )  
 Cable entry: M16 x 1.5  
 Ingress protection class: IP 68  
 Ambient temperature: -40°C ... 85°C

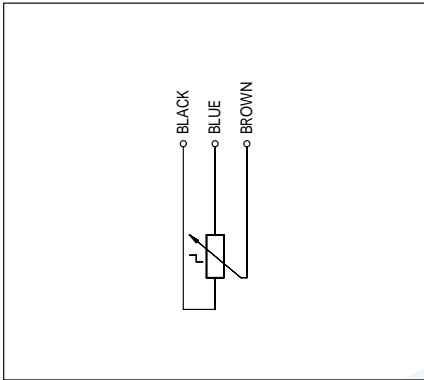


The magnetic float level transmitter are based on a modular design and can be arranged individually.

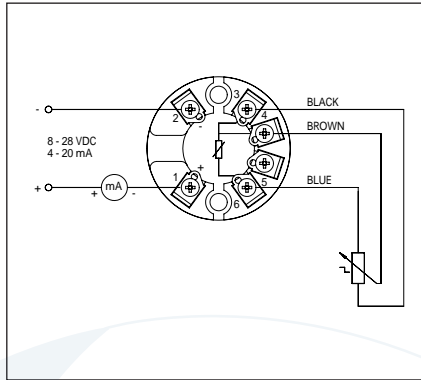
Type key page 10 - 13



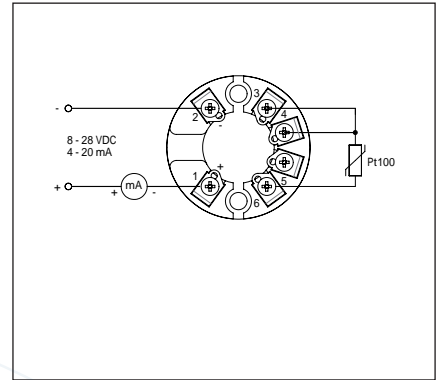
Connection diagram



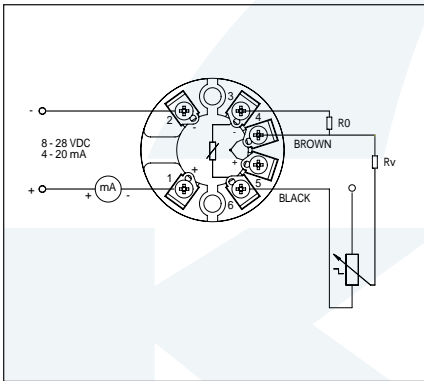
without Control unit



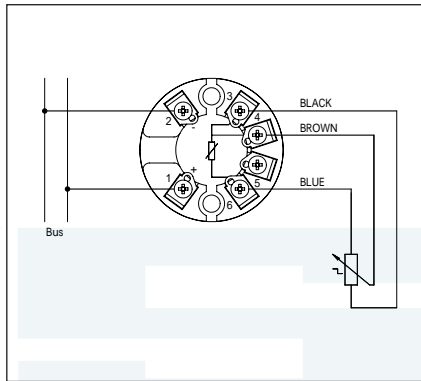
Control unit TP5343..



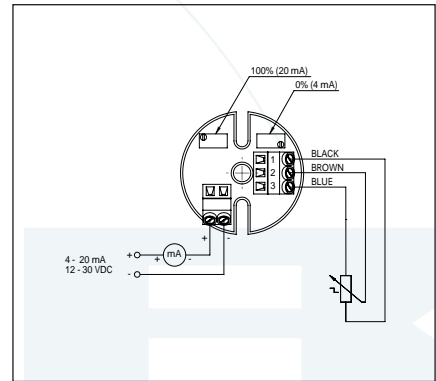
Control unit TD5333..



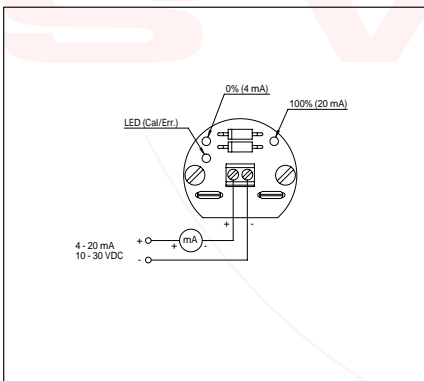
Control unit TD5335..



Control unit TP5350..



Control unit XT42SI Ex



Control unit magnetostrictive

Some further data according to chapter Control Units 1011

Die Niveaureaumesswertgeber basieren auf einer modularen Bauweise und können individuell zusammengestellt werden.

Type key page 10 - 13

## Temperature switch

|                        |                       |                       |
|------------------------|-----------------------|-----------------------|
| Type:                  | TO                    | TS                    |
| Function:              | Normally closed       | Normally open         |
| Switching capacity:    | 230 V / 0.5 A / 40 VA | 230 V / 0.5 A / 40 VA |
| Temperature / Grading: | 50°C ... 160°C / 5 K  | 80°C ... 160°C / 5 K  |
| Accuracy:              | ± 5 K                 | ± 5 K                 |
| Hysteresis:            | 30 K ± 15 K           | 30 K ± 15 K           |

## Temperature switch - Pepi

|                        |                       |                       |
|------------------------|-----------------------|-----------------------|
| Type:                  | TPO                   | TPS                   |
| Function:              | Normally closed       | Normally open         |
| Switching capacity:    | 230 V / 0.5 A / 40 VA | 230 V / 0.5 A / 40 VA |
| Temperature / Grading: | 30°C ... 120°C / 5 K  | 30°C ... 120°C / 5 K  |
| Accuracy:              | ± 3 K                 | ± 3 K                 |
| Hysteresis:            | ± 1 K                 | ± 1 K                 |

## Temperature probe

|                               |                   |                   |
|-------------------------------|-------------------|-------------------|
| Type:                         | TFA               | TFB               |
| Probe:                        | Pt 100            | Pt 1000           |
| Nominal response temperature: | -70°C ... 400°C   | -70°C ... 400°C   |
| Tolerance class:              | B                 | B                 |
| Performance:                  | Acc. to IEC 751   | Acc. to IEC 751   |
| Connection:                   | 2- / 3- or 4-wire | 2- / 3- or 4-wire |



The magnetic float level transmitter are based on a modular design and can be arranged individually.

**Type key page 10 - 13**

**Connection cable**

| Type | Material quality                       | Max. Ambient temperature |
|------|--|--------------------------|
| PVC  | PVC connection cable                   | -20°C ... 80°C           |
| PVCB | PVC connection cable with blue coating | -20°C ... 80°C           |
| SIL  | Silicone connection cable              | -60°C ... 180°C          |
| PUR  | PUR connection cable                   | -40°C ... 80°C           |
| RAD  | Radox connection cable                 | -35°C ... 120°C          |
| FTEF | Teflon strands                         | -65°C ... 200°C          |
| FPVC | PVC strands                            | -5°C ... 70°C            |

**Level switch**

| Level switch function            |  |
|----------------------------------|--|
| Function:<br>Switching capacity: | Normally open / S<br>230 V / 1.0 A / 100 VA  |
| Function:<br>Switching capacity: | Normally closed / O<br>230 V / 0.5 A / 40 VA |
| Function:<br>Switching capacity: | Change over / U<br>230 V / 0.5 A / 40 VA     |

**KÜBLER**

**SWISS**

The magnetic float level transmitter are based on a modular design and can be arranged individually.

**Type key page 10 - 13**