

Conductivity cell, glass body Ø12 mm, platinized platinum electrodes

Conductivity cells with glass body and platinized platinum electrodes.

These cells are available with the following cell constants: $K = 0.01$ cm, $K = 0.1$ cm and $K = 1$ cm, they are therefore suitable to measure in a wide conductivity range, from 0 up to 2000 mS.

These cells can be supplied c/w integral temperature sensor Pt100, Pt1000, TC100 or other upon request, for measure thermo compensation.

Series 401L cells are designed for all typical laboratory applications; they can also be installed into immersion probes, through flow cells and into probes for direct installation in closed pipelines or vessels, can therefore be used also in many process applications.

Typical use of these cells are drinking water plants, industrial processes, laboratories.

Advantages

- Std dimensions, Ø 12 mm, L.120 mm (except for $K = 0.01$)
- Suitable for the insertion into immersion probes, through flow cells and probes for direct installation in closed pipelines or tanks
- Available c/w integral temperature sensor, Pt100, Pt1000, TC100 or other upon request
- Platinized platinum measuring electrodes
- Cell constants $K=0.01$ cm, $K=0.1$ cm, $K=1$ cm
- Measuring range 0 to 2000 mS
- Operating temperature $-5 + 90$ °C

Operating principle and realization

These cells have glass body, Ø 12mm L.120mm (cells with $K=0.1$ and $K=1$ cell constant) and Ø 12mm L.300mm (cell with $K=0.01$ cm cell constant).

These dimensions allow, besides typical laboratory use, to install these cells into immersion fittings Mod.SI0A, SI0B, SI0G and SI0H and, except for 401L1x0x0xxA, into through flow cell Mod.D0G and D0H, into retractable probe SIEST and into SI16 fitting for direct installation into closed pipes.

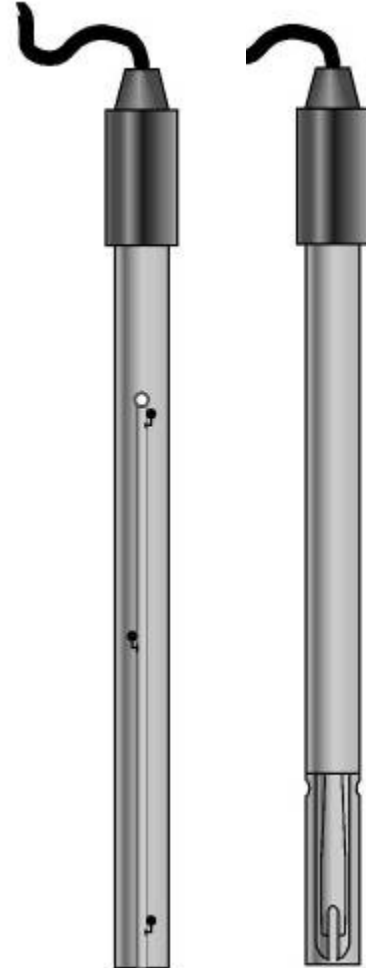
Measuring electrodes are made of platinized platinum, are therefore unaffected by the polarization phenomenon, so assuring good linearity of the measure within all the measuring ranges.

Measuring electrodes are two for the cells with $K = 1$ cm cell constant, three for the cells with $K = 0.1$ cm and $K = 0.01$ cm cell constant.

Series 401L cells are available with the options listed in the Order Code Breakdown.

Correspondence between measuring ranges and cell constants for Series 401Lxx0x0xxA cells

K = 0.01 cm.....	20÷2000 mS
K = 0.1 cm.....	2000÷500000 µS
K = 1 cm.....	0÷20000 µS



401Lxx0x0xxA

Installation, Maintenance and Calibration

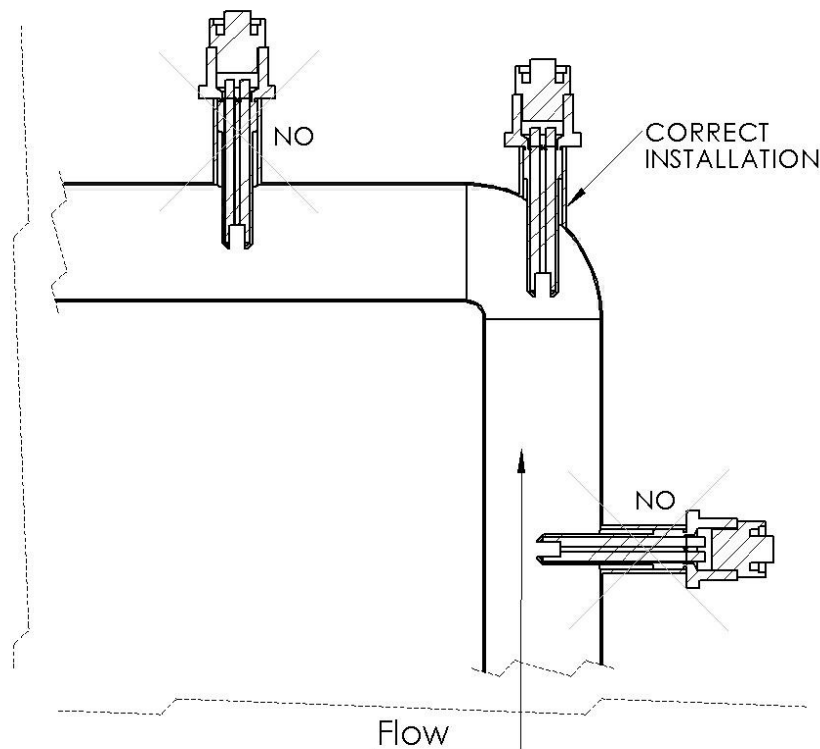
Series 401L cells should be installed at the minimum immersion depth indicated in figure, and the immersion depth should be kept reasonably constant. In process applications the sample flow should be directed against the cell bottom so that the liquid entering the cell can flow upwards and exit from the upper hole (in this way no air bubble will get trapped into the cell). These cells should not be installed in locations with high turbulence.

FS values, cell constant and set-point (min and max) of the instrument are factory calibrated. In any case all these values can be modified by the user, as stated in the user manual pertinent to conductivity transmitter.

The cell K correction is the only calibration to be performed at start up.

Insert the cell in a solution with known conductivity and calibrate the slope to obtain the correct reading (the instrument should read the calibration solution conductivity value) or, in the instruments provided with this option, insert the known value of the cell constant (it is indicated on the cell data tag).

Conductivity cells Series 401L with platinum electrodes should be cleaned with water or with diluted acid or detergent, but never with mechanical cleaning, that could damage platinum electrodes.

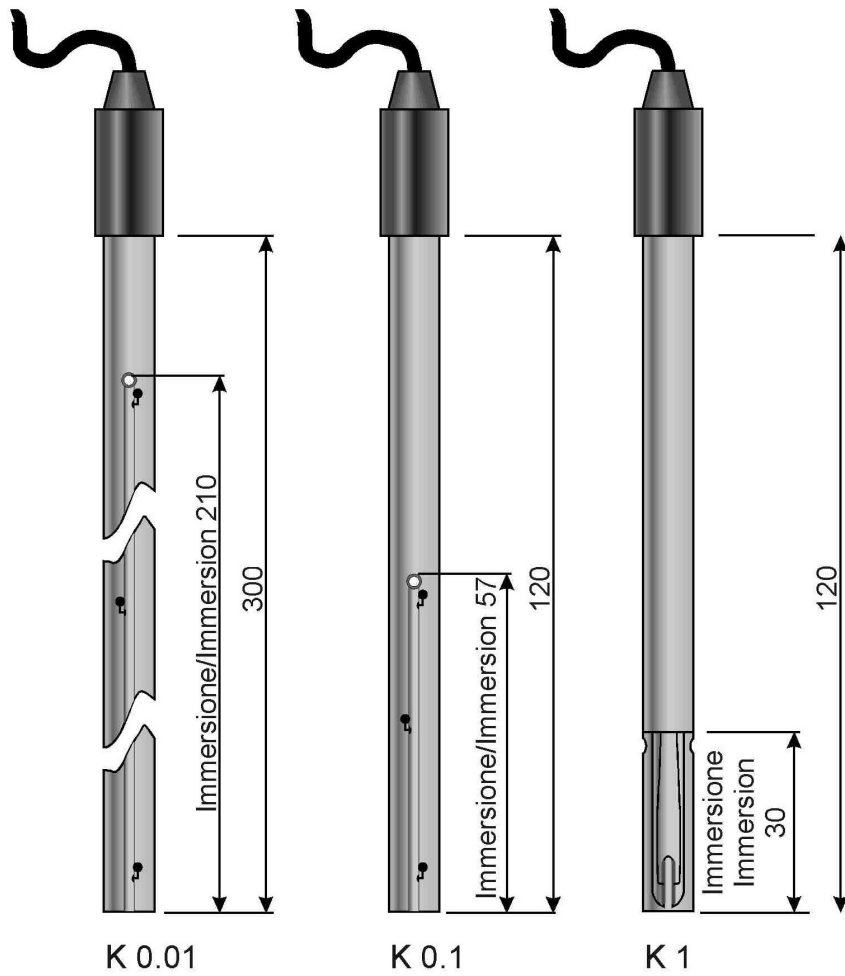


Technical Specifications

Cell body:.....glass
Measuring electrodes:.....3, platinized platinum, in the cells with K=0.01cm and K=0.1cm cell constant,
.....2, platinized platinum, in the cells with K = 1 cm cell constant
Cell constants (cm):.....K = 0.01, K = 0.1 , K = 1
Measuring ranges:.....(K = 0.01 cm) 20000÷2000000 μ S - (K = 0.1 cm) 2000÷500000 μ S
.....(K = 1 cm) 0÷20000 μ S
Operating temperature limits:.....-5÷90 °C
Dimensions :(K=0.01) \varnothing 12mm, length. 300 mm - (K=0.1, K=1) \varnothing 12mm, length. 120 mm
Minimum immersion depth:.....(K=0.01) 210 mm - (K=0.1) 57 mm - (K=1) 30 mm
Cable:.....according to order code breakdown

401Lxx0x0xxA

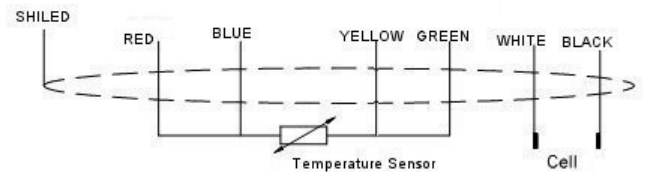
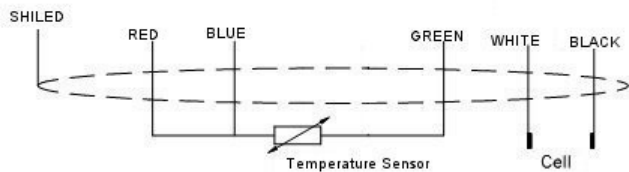
Outline Dimensions



Wiring, cell with temperature sensor

COLOR	ELEMENT
RED + BLUE	Pt 100
GREEN	Pt 100
WHITE	CELL
BLACK	CELL
SHIELD	GROUND

COLOR	ELEMENT
RED + BLUE	Pt 100
YELLOW + GREEN	Pt 100
WHITE	CELL
BLACK	CELL
SHIELD	GROUND



401Lxx0x0xxA

Accessories

401L... cells can be supplied c/w many type of cables and connectors on instrument side. Specify at order (or when asking for a quotation) the desired cable and connector.

Allowed choices are listed below; for different options pls contact Your supplier.

Cables for 401LxA0x0xxA cells WITHOUT integral temperature sensor

Integral cable, 1 m, 5 m, 10 m length.

Stainless steel head c/w flange and integral cable, 3m, 5m, 10m length.

Cell with S7 screwed connector, or with S7 screwed connector and PG13,5 threaded process connection: for both the cables to be used are:

Mod.CV/S7-1 Shielded cable, Ø 5mm, length 1 m, c/w S7 connector (CN/10)

Mod.CV/S7-3 Shielded cable, Ø 5mm, length 3 m, c/w S7 connector (CN/10)

Mod.CV/S7-5 Shielded cable, Ø 5mm, length 5 m, c/w S7 connector (CN/10)

Mod.CV/S7-10 Shielded cable, Ø 5mm, length 10 m, c/w S7 connector (CN/10)

Cables and connector for 401Lx(B,C,D or Z)0x0xxA cells, C/W integral temperature sensor

Integral cable, 7 wires, shielded, length 3m, 5m, 10m.

Stainless steel head c/w flange and integral cable, 7 wires, shielded, length 3m, 5m, 10m.

Quadripolar sealed connector for temperature compensated cells, CN/95

Cable connectors, instrument side, ONLY for 401LxA0x0xxA cells, W/O integral temperature sensor:

Mod.CN/1 coaxial, BNC

Mod.CN/7 Banana Ø 4 mm

Mod.CN/8 Banana Ø 2 mm

Cable connectors, instrument side, for 401Lx(B,C,D or Z)0x0xxA cells, C/W integral temperature sensor:

Mod.CN/12 8 poles connector - cell 401L(B,C,D or Z)0x0x5A

Mod.CN/40 FConnector for HD2306 c/w linearizing circuit - cell 401L(B,C,D or Z)0x0x4A

Optional accessories

All the 401L cells can be supplied c/w threaded process connection, ½", upon request.

This process connection is fixed on the cell body in the position required by the customer.

If required, specify at order (or when asking for a quotation) the ½" threaded process connection and its position on the cell body.

Known conductivity standard solution, 250 ml bottle.....T/401-A

Specify desired conductivity value at order; typical values are: 1,278 mS, 11,67 mS e 102,09 mS, however solution with other conductivity values are available upon request.

401Lxx0x0xxA

Order code breakdown

Conductivity cells	401	x	x	x	x	x	x	x	x	x
Type of cell										
Glass body, Ø 12 mm, platinized Pt electrodes 401/L	L									
Cell constant										
Reserved		0								
k = 0.01 cm		1								
k = 0.1 cm		2								
k = 1 cm		3								
Special execution		9								
Temperature sensing element										
Not included			A							
Pt100 sensor			B							
Pt1000 sensor			C							
TC100 sensor			D							
Special execution			Z							
Cell construction material										
Standard (platinum/glass)				0						
Special execution				9						
Process connections										
Standard (no connection)					A					
Threaded connection, PG 13,5					P					
Threaded ½" Gas M, plastic					Q					
Special execution					Z					
Fixed code								0		
Cable and connector										
Integral cable, 1 m									A	
Integral cable, 5 m									B	
C Integral cable, 10 m									C	
S7 Screw connector (Note 1)									E	
S7 screw connector c/e PG 13,5 process connection (Note 1)									F	
Quadripolar sealed connector for temperature compensated cells, CN/95									G	
SS head c/w flange, integral cable, 3 m									I	
SS head c/w flange, integral cable, 5 m									L	
SS head c/w flange, integral cable, 10 m									M	
SS sheath, threaded conn. ½", integral cable, 3 m									O	
SS sheath, threaded conn. ½", integral cable, 5 m									P	
SS sheath, threaded conn. ½", integral cable, 10 m									Q	
SS sheath, threaded conn. ½", S7 connector for cable (Note 1)									S	
SS sheath, threaded conn. ½" NPT integral cable 3 m									T	
SS sheath, threaded conn. ½" NPT integral cable 5 m									U	
SS sheath, threaded conn. ½" NPT integral cable 10 m									V	
SS sheath, threaded conn. ½" NPT S7 connector for cable (Note 1)									X	
Special execution									Z	
Connector on instrument side										
None										0
BNC coaxial (Note 1)										1
Banana 2 mm (Note 1)										2
Banana 4 mm (Note 1)										3
Conn.CN/40 for HD2306										4
8 poles connector (CN/12)										5
Special execution										9
Fixed code										A

Note 1: not available for cells c/w integral temperature sensor