

# AMTRON® X-50

## eXceptionally cost-effective with a CliX

### Applications

The AMTRON® X-50 totalizer has the quality features and easy operation as hallmarks of its class. These include the high-accurate 16-bit A/D converter for temperature measurement and the plug-in module for cost-effective recalibration.

The instrument is the ideal solution for standard applications for both domestic and building technology systems such as:

- energy measurement in heating and cooling systems using water as the heat carrier
- remote readout via M-Bus and two pulse inputs or two outputs for energy, volume or alarm



### Features

- Plug-in meter module for independent calibration
- Memory for 2 billing dates and 31 logger values
- M-Bus with 2 pulse inputs\*
- Two pulse outputs for energy, volume or alarm\*
- Battery or mains version
- Instrument settings using just 2 operating keys or the user-friendly CalecWin software

\* Optional

### Benefits

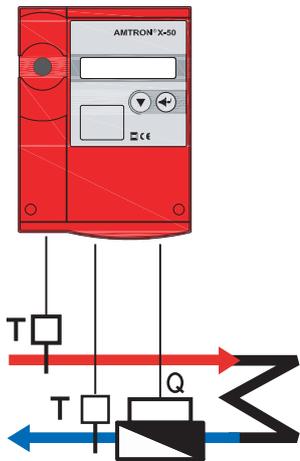
- Time and cost savings when recalibrating
- Data for accurate invoicing and other evaluation functions
- Remote reading of the heat meter and two other meters via an M-Bus interface
- Remote metering or alarm indication
- Five-year battery-powered operation, 10 years with M-Bus (replaceable battery) or mains supply
- Clear and simple configuration

## Applications

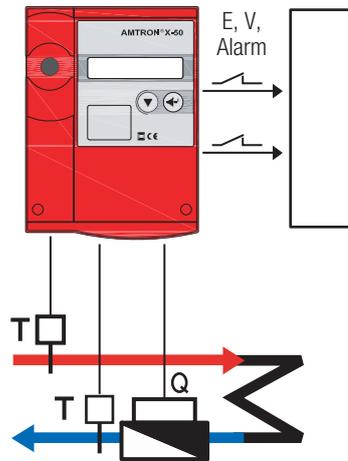
To calculate energy consumption using a heat meter consisting of a totalizer, flow sensor and paired temperature sensors. The AMTRON® X-50 totalizer can be operated with all flow sensors that have a passive pulse output (contact, open collector), such as turbine, Woltman, ultrasonic or magnetic-inductive flow sensors. Pt 500 sensors with two-wire connections are used for temperature measurement. The mains power supply version can be fitted with either 2- or 4-wire sensors.

Heat meters with the AMTRON® X-50 may be operated with water as the heat carrier for the following applications:

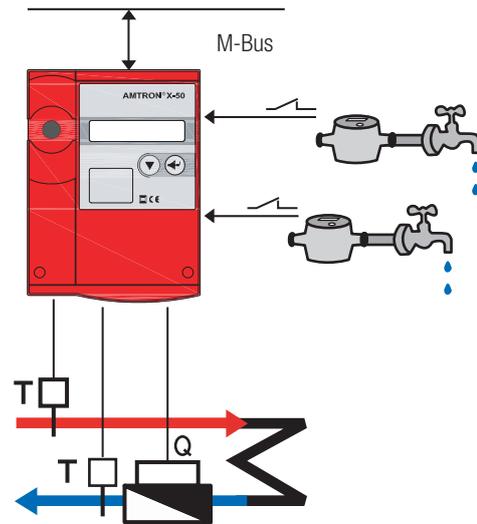
### Split heat meter



### Remote reading for energy and volume or alarm output (AA)



### M-Bus interface and pulse collector for 2 water meters (EE)



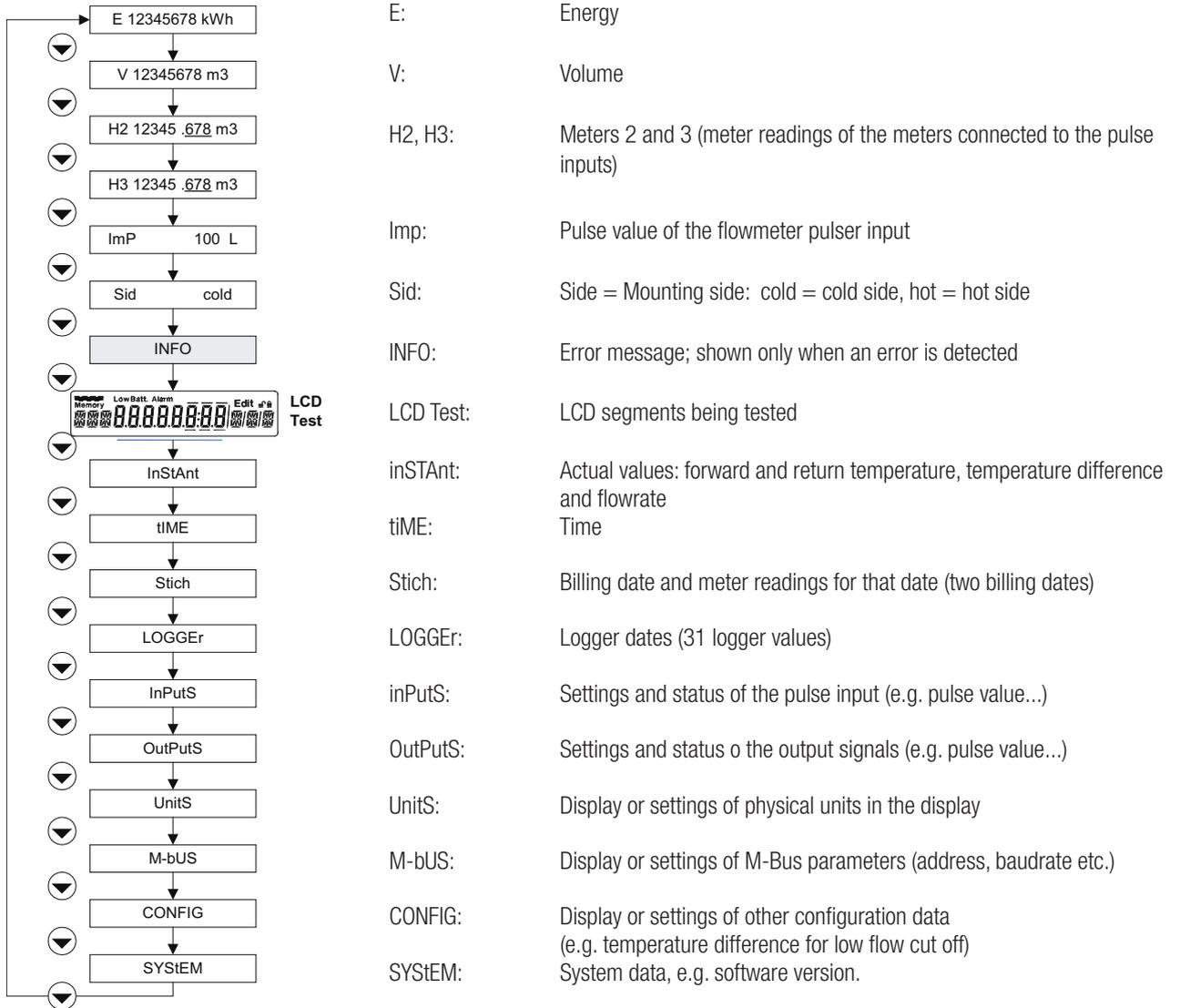
## Highlights



- Plug-in module (shown left). This ensures efficient data interchange as the unit and cable do not have to be removed.
- Increased battery life when using the M-Bus (10 years, replaceable battery) or as a mains power supply version.
- Settings made with operating keys or via the user-friendly CalcWin software
- Readings for 2 billing dates
- Logger with 31 readings, i.e. records
  - monthly for 2 1/2 years
  - every 2 days for 2 months
  - daily for 1 month
- Low temperature difference flow cut off 0.15 K, adjustable from 0...2.99 K
- Optional input for 2 external meters (pulse collector function)
- Optional 2 outputs for energy and volume pulses or alarm signal
- Simplified parts management with just 4 variants and one option

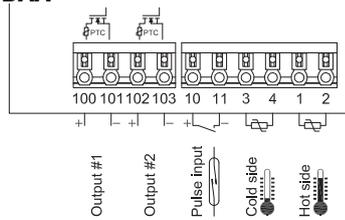
# Operation

The AMTRON® X-50 totalizer is hallmarked by its ease of operation with only 2 keys and the help messages in the display. All settings can be carried out on site or with the CalecWin software with all calibration data protected. The display symbols are explained as follows:

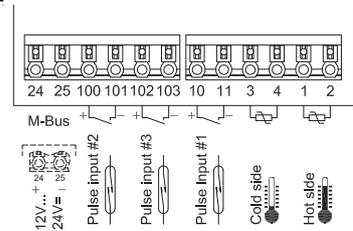


## Electrical connections

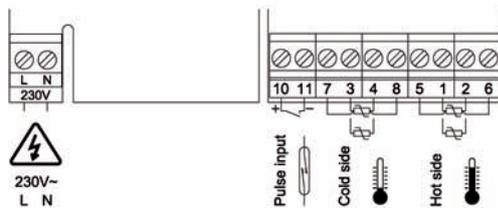
AMTRON® X-50 BAA



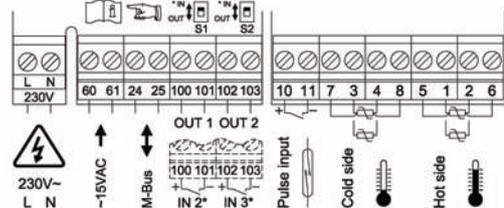
AMTRON® X-50 BME6



AMTRON® X-50 N230



AMTRON® X-50 N230M AA/EE



## Technical data

CE Directives	89/336/EEC, 93/68 EEC
Standards	EN 55081-1, EN 50082-2, EN 61010
Dimensions W x H x D	120 x 163 x 49 mm
Ambient temperature	+ 5 ... + 55 °C, EN1434 class C
Storage temperature	0 ... + 60 °C
Approved temperature range (rated)	5 ... 150 °C (0 ... 150 °C)
Approved temperature difference (rated)	3 ... 145 K (0 ... 150 K)
Energy measurement from minimum	
Low temperature difference flow cut off	0.15 K, adjustable from 0 ... 2,99 K
Sensor type acc. to IEC 751	Pt 500, paired
Resolution of A/D transformer (temperature measurement)	16 bits, 7mK
Time between temperature measurement/energy calculation	1 min.
Error limits	Min. EN 1434-1 (< 0.5 %)
Pulse inputs	For passive pulser (open collector, contact)
Max. pulse frequency	Symmetrical / non-symmetrical pulse 6 / 10 Hz
Min. on/off ratio	8 ms / 80 ms
Pulse outputs	Galvanically not separated, max. 48 VDC / 50 mA
Billing dates	2
Logger	31 groups, at intervals: 1 month, 2 days, 1 day
Infrared interface	EN 61107 with M-Bus protocol

Specifications	BAA	BMEE	N230	N230M AA/EE
Power supply 230 VAC, 50/60 Hz, max. 7mA, 0.35 VA	-	-	●	●
Internal battery (reserve battery, replaceable)	-	-	3 V Li, 48 mAh, CR1225	
Service life of battery (incl. 1 year storage)	5+1 years	10+1 years*	-	-
Battery replaceable	3 V Li, 2.5 Ah, CR174705E		-	-
M-Bus interface acc. to EN 1434-3	-	●	-	●
Pulse inputs or outputs	2 outputs	2 inputs	-	2 out- or inputs
Connection terminals	Snap-on		Screw	
Wire diameter	0.25 – 1.5 mm <sup>2</sup>		0.25 – 2.5 mm <sup>2</sup>	
Length of exposed wire	8 + 1 mm		8 + 1 mm	
Sensor connection	2-wire		2- or 4-wire	
Weight approx. (g)	375	380	450	470
Weight for shipping approx. (g)	485	490	560	580

\* with M-Bus or 12-24 VDC power supply

## Versions

Instrument	Description	Art. No.
AMTRON® X-50 BAA	Totalizer with battery (5 +1 year) 2 pulse outputs (semiconductor relay)	93784
AMTRON® X-50 BMEE	Totalizer with battery (10 +1 year) M-Bus interface and 2 pulse inputs	93785
AMTRON® X-50 N230	Totalizer with 230 VAC mains power supply	93786
AMTRON® X-50 N230M AA/EE	Totalizer with 230 VAC mains power supply M-Bus interface and 2 pulse input or outputs (semiconductor relay)	93787
AMTRON® X-50 optional hot side	Optional hot side mounting, ordered separately to totalizer	96157

DISTRIBUTOR:

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