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Legend

Abbreviation	Identification
2-LT	2-wire technology
AH	Positioning ring on sensor cable
DN	Nominal diameter
FL	Flanged connection
IA	Pulse output (1 IA = energy; volume can be changed per Device Monitor) Heat meter: 2 IA (2 pulse outputs) transmit energy and volume pulses Heat and cooling meter: 2 IA transmit heat energy and cooling energy pulses
IP	Protection class
KH	Ball valve
M-Bus	M-Bus-interface galvanically separated (data record)
MID	Measuring Instruments Directive (European approval)
MSH Typ A (Allmess/Itron)	Multi-jet flow sensor for metering points with M77x1,5-thread
MSH Typ M (Minol)	Multi-jet flow sensor for metering points with M60x1,5-thread
MSH Typ Q	Multi-jet flow sensor for inline installation, metering points 110 mm and 130 mm
MSH Typ I (Ista)	Multi-jet flow sensor for installation points with 2"-thread
MSH Typ T (Techem)	Multi-jet flow sensor for installation points with M62x2-thread
MTH	Multi-jet flow sensor, dry running, hard storage
NET	Mains connection
o.Fü.	Delivery without temperature sensor
PN	Nominal pressure
PTB	Physikalisch-Technische Bundesanstalt (German National Metrology Institute)
qp	Nominal flow
S / F	Standpipe mounting / Fall pipe mounting
US	Ultrasonic flow meter
UTS	Universal temperature sensor
V	Threaded connection
W	Horizontal mounting
WP	Woltmann flow sensor type WP - horizontal or vertical mounting position
WS	Woltmann flow sensor type WS - horizontal mounting position
UPK	In-wall case
VZ	Valve meter
ZHZ	Tap water meter
WTZ	Wash stand water meter

Note:

Product information on images are only exemplary for demonstration purposes and are subject to change.

**Compact heat meters with single-jet flow sensor,
for metering points with 110 or 130 mm installation length**

SensoStar E (Single-jet)

- Dynamic temperature measuring cycle 2/60 sec.
- Large, easy-to-read display
- 15 monthly and half-monthly values readable in display
- Backflow detection
- Optical interface
- Installation in return flow
- Return flow temperature sensor integrated
- Forward flow temperature sensor with 1,5 m connecting cable
- Silicone cable for the temperature sensors
- Including seals
- 50 cm connection cable and wall-mounting set for detachable calculator



Type	Nominal size qp	Length [mm]	DN	Connec-tion	Temp.sensor Ø [mm]	Option	Article number
Calculator not detachable							
E	0,6	110	15	G¾B	5,0	Module slot	ACAA 000001
E	1,5	110	15	G¾B	5,0	Module slot	ACAB 000004
E	1,5	130	20	G1B	5,0	Module slot	ACAB 009729
E	2,5	130	20	G1B	5,0	Module slot	ACAC 000008
E	0,6	110	15	G¾B	5,0	M-Bus (module installed)	ACAA 000020
E	1,5	110	15	G¾B	5,0	M-Bus (module installed)	ACAB 000010
E	1,5	130	20	G1B	5,0	M-Bus (module installed)	ACAB 009741
E	2,5	130	20	G1B	5,0	M-Bus (module installed)	ACAC 000011
E	0,6	110	15	G¾B	5,0	M-Bus + 3 Pulse inputs (module installed)	ACAA 021033
E	1,5	110	15	G¾B	5,0	M-Bus + 3 Pulse inputs (module installed)	ACAB 021034
E	1,5	130	20	G1B	5,0	M-Bus + 3 Pulse inputs (module installed)	ACAB 021035
E	2,5	130	20	G1B	5,0	M-Bus + 3 Pulse inputs (module installed)	ACAC 021041
E	0,6	110	15	G¾B	5,0	1 Pulse output (module installed)	ACAA 000012
E	1,5	110	15	G¾B	5,0	1 Pulse output (module installed)	ACAB 000013
E	1,5	130	20	G1B	5,0	1 Pulse output (module installed)	ACAB 009743
E	2,5	130	20	G1B	5,0	1 Pulse output (module installed)	ACAC 000014
E	0,6	110	15	G¾B	5,0	Radio (integrated)	ACAA 000326
E	1,5	110	15	G¾B	5,0	Radio (integrated)	ACAB 000327
E	1,5	130	20	G1B	5,0	Radio (integrated)	ACAB 021044
E	2,5	130	20	G1B	5,0	Radio (integrated)	ACAC 021045
Calculator detachable							
E	0,6	110	15	G¾B	5,0	Module slot	ACAA 000015
E	1,5	110	15	G¾B	5,0	Module slot	ACAB 000016
E	1,5	130	20	G1B	5,0	Module slot	ACAB 009745
E	2,5	130	20	G1B	5,0	Module slot	ACAC 000017
E	0,6	110	15	G¾B	5,0	M-Bus (module installed)	ACAA 000009
E	1,5	110	15	G¾B	5,0	M-Bus (module installed)	ACAB 000021
E	1,5	130	20	G1B	5,0	M-Bus (module installed)	ACAB 009752
E	2,5	130	20	G1B	5,0	M-Bus (module installed)	ACAC 000022
E	0,6	110	15	G¾B	5,0	M-Bus + 3 Pulse inputs (module installed)	ACAA 021051
E	1,5	110	15	G¾B	5,0	M-Bus + 3 Pulse inputs (module installed)	ACAB 021052
E	1,5	130	20	G1B	5,0	M-Bus + 3 Pulse inputs (module installed)	ACAB 021053
E	2,5	130	20	G1B	5,0	M-Bus + 3 Pulse inputs (module installed)	ACAC 021054
E	0,6	110	15	G¾B	5,0	1 Pulse output (module installed)	ACAA 000023
E	1,5	110	15	G¾B	5,0	1 Pulse output (module installed)	ACAB 000024
E	1,5	130	20	G1B	5,0	1 Pulse output (module installed)	ACAB 009754
E	2,5	130	20	G1B	5,0	1 Pulse output (module installed)	ACAC 000025
E	0,6	110	15	G¾B	5,0	Radio (integrated)	ACAA 000026
E	1,5	110	15	G¾B	5,0	Radio (integrated)	ACAB 000027
E	1,5	130	20	G1B	5,0	Radio (integrated)	ACAB 009756
E	2,5	130	20	G1B	5,0	Radio (integrated)	ACAC 000028

Type	Nominal size qp	Length [mm]	DN	Conne- ction	Temp.sensor \emptyset [mm]	Option	Article number
Calculator not detachable							
E	0,6	110	15	G $\frac{3}{4}$ B	5,2	Module slot	ACAA 000031
E	1,5	110	15	G $\frac{3}{4}$ B	5,2	Module slot	ACAB 000032
E	1,5	130	20	G1B	5,2	Module slot	ACAB 009758
E	2,5	130	20	G1B	5,2	Module slot	ACAC 000033
E	0,6	110	15	G $\frac{3}{4}$ B	5,2	M-Bus (module installed)	ACAA 000034
E	1,5	110	15	G $\frac{3}{4}$ B	5,2	M-Bus (module installed)	ACAB 000035
E	1,5	130	20	G1B	5,2	M-Bus (module installed)	ACAB 009760
E	2,5	130	20	G1B	5,2	M-Bus (module installed)	ACAC 000036
E	0,6	110	15	G $\frac{3}{4}$ B	5,2	M-Bus + 3 Pulse inputs (module installed)	ACAA 021055
E	1,5	110	15	G $\frac{3}{4}$ B	5,2	M-Bus + 3 Pulse inputs (module installed)	ACAB 021056
E	1,5	130	20	G1B	5,2	M-Bus + 3 Pulse inputs (module installed)	ACAB 021057
E	2,5	130	20	G1B	5,2	M-Bus + 3 Pulse inputs (module installed)	ACAC 021058
E	0,6	110	15	G $\frac{3}{4}$ B	5,2	1 Pulse output (module installed)	ACAA 000037
E	1,5	110	15	G $\frac{3}{4}$ B	5,2	1 Pulse output (module installed)	ACAB 000038
E	1,5	130	20	G1B	5,2	1 Pulse output (module installed)	ACAB 009762
E	2,5	130	20	G1B	5,2	1 Pulse output (module installed)	ACAC 000039
E	0,6	110	15	G $\frac{3}{4}$ B	5,2	Radio (integrated)	ACAA 021059
E	1,5	110	15	G $\frac{3}{4}$ B	5,2	Radio (integrated)	ACAB 021061
E	1,5	130	20	G1B	5,2	Radio (integrated)	ACAB 021062
E	2,5	130	20	G1B	5,2	Radio (integrated)	ACAC 021063
Calculator detachable							
E	0,6	110	15	G $\frac{3}{4}$ B	5,2	Module slot	ACAA 000040
E	1,5	110	15	G $\frac{3}{4}$ B	5,2	Module slot	ACAB 000041
E	1,5	130	20	G1B	5,2	Module slot	ACAB 009764
E	2,5	130	20	G1B	5,2	Module slot	ACAC 000042
E	0,6	110	15	G $\frac{3}{4}$ B	5,2	M-Bus (module installed)	ACAA 000043
E	1,5	110	15	G $\frac{3}{4}$ B	5,2	M-Bus (module installed)	ACAB 000044
E	1,5	130	20	G1B	5,2	M-Bus (module installed)	ACAB 009766
E	2,5	130	20	G1B	5,2	M-Bus (module installed)	ACAC 000045
E	0,6	110	15	G $\frac{3}{4}$ B	5,2	M-Bus + 3 Pulse inputs (module installed)	ACAA 021064
E	1,5	110	15	G $\frac{3}{4}$ B	5,2	M-Bus + 3 Pulse inputs (module installed)	ACAB 021066
E	1,5	130	20	G1B	5,2	M-Bus + 3 Pulse inputs (module installed)	ACAB 021065
E	2,5	130	20	G1B	5,2	M-Bus + 3 Pulse inputs (module installed)	ACAC 021067
E	0,6	110	15	G $\frac{3}{4}$ B	5,2	1 Pulse output (module installed)	ACAA 000046
E	1,5	110	15	G $\frac{3}{4}$ B	5,2	1 Pulse output (module installed)	ACAB 000047
E	1,5	130	20	G1B	5,2	1 Pulse output (module installed)	ACAB 009768
E	2,5	130	20	G1B	5,2	1 Pulse output (module installed)	ACAC 000048
E	0,6	110	15	G $\frac{3}{4}$ B	5,2	Radio (integrated)	ACAA 000049
E	1,5	110	15	G $\frac{3}{4}$ B	5,2	Radio (integrated)	ACAB 000050
E	1,5	130	20	G1B	5,2	Radio (integrated)	ACAB 009770
E	2,5	130	20	G1B	5,2	Radio (integrated)	ACAC 000051

Hint: Meters till length 130 mm: there are at maximum 12 single-packed compact meters in a package

Installation set consisting of:

- 1 adapter
- 2 threaded fittings (incl. gaskets)
- 1 ball valve with M10x1



Type	Length [mm]	DN	Connection	Temp.sensor \emptyset [mm]	Article number
SE-PS-3KH-110-0,6/1,5	110	15	G $\frac{3}{4}$ B	5,0 / 5,2	0050000106
SE-PS-3KH-130-2,5	130	20	G1B	5,0 / 5,2	0050000107

Options for compact heat and cooling meters

SensoStar E

installed at factory

Installation in forward flow
Surcharge for glycol meters (solar systems) - Standard Ethylene glycol 30%
Surcharge cooling meter (incl. programming), only available with removable calculator (not for qp 0,6)
Surcharge heat and cooling meter (incl. programming)
Temperature sensors Ø 6 mm ONLY symmetrical Attention: It is necessary to select a cable length, subject to a surcharge
Forward flow temperature sensor cable, length 3 m (asymmetrical = return flow temp. sensor integrated)
Forward flow temperature sensor cable, length 6 m (asymmetrical = return flow temp. sensor integrated)
Forward and return flow temperature sensor cable, length 1,5 m (symmetrical = both temp. sensors outside)
Forward and return flow temperature sensor cable, length 3 m (symmetrical = both temp. sensors outside)
Forward and return flow temperature sensor cable, length 6 m (symmetrical = both temp. sensors outside)
3 pulse inputs (for meters with Radio or M-bus)
2 pulse outputs

Special programming (order related)
Special programming for glycol meters (Glycol type propylene or ethylene & concentration)
Special programming for individual reading date (Standard 31/12)
Pre-programmed primary M-Bus adress
Pre-programmed secondary M-Bus adress
Other individual programming

Compact heat meters with multi-jet flow sensor,

SensoStar I (Ista)

- Dynamic temperature measuring cycle 2/60 sec.
- Large, easy-to-read display
- 15 monthly and half-monthly values readable in display
- Backflow detection
- Optical interface
- Installation in return flow
- Return flow temperature sensor integrated
- Forward flow temperature sensor with 1,5 m connecting cable
- Silicone cable for the temperature sensors
- Including seals
- 50 cm connection cable and wall-mounting set for detachable calculator



Type	Nominal size qp		Temp.sensor Ø [mm]	Option	Article number
Calculator not detachable					
I	0,6		5,0	Module slot	ACBA 000052
I	1,5		5,0	Module slot	ACBB 000053
I	2,5		5,0	Module slot	ACBC 000054
I	0,6		5,0	M-Bus (module installed)	ACBA 000055
I	1,5		5,0	M-Bus (module installed)	ACBB 000056
I	2,5		5,0	M-Bus (module installed)	ACBC 000057
I	0,6		5,0	M-Bus + 3 Pulse inputs (module installed)	ACBA 021068
I	1,5		5,0	M-Bus + 3 Pulse inputs (module installed)	ACBB 021069
I	2,5		5,0	M-Bus + 3 Pulse inputs (module installed)	ACBC 021070
I	0,6		5,0	1 Pulse output (module installed)	ACBA 000058
I	1,5		5,0	1 Pulse output (module installed)	ACBB 000059
I	2,5		5,0	1 Pulse output (module installed)	ACBC 000060
I	0,6		5,0	Radio (integrated)	ACBA 021086
I	1,5		5,0	Radio (integrated)	ACBB 021087
I	2,5		5,0	Radio (integrated)	ACBC 019862
Calculator detachable					
I	0,6		5,0	Module slot	ACBA 000061
I	1,5		5,0	Module slot	ACBB 000064
I	2,5		5,0	Module slot	ACBC 000063
I	0,6		5,0	M-Bus (module installed)	ACBA 000065
I	1,5		5,0	M-Bus (module installed)	ACBB 000066
I	2,5		5,0	M-Bus (module installed)	ACBC 000067
I	0,6		5,0	M-Bus + 3 Pulse inputs (module installed)	ACBA 021089
I	1,5		5,0	M-Bus + 3 Pulse inputs (module installed)	ACBB 021090
I	2,5		5,0	M-Bus + 3 Pulse inputs (module installed)	ACBC 021091
I	0,6		5,0	1 Pulse output (module installed)	ACBA 000068
I	1,5		5,0	1 Pulse output (module installed)	ACBB 000069
I	2,5		5,0	1 Pulse output (module installed)	ACBC 000070
I	0,6		5,0	Radio (integrated)	ACBA 000071
I	1,5		5,0	Radio (integrated)	ACBB 000072
I	2,5		5,0	Radio (integrated)	ACBC 000073

Hint: all capsule meters: there are at maximum 12 single-packed compact meters in a package

Type	Nominal size qp		Temp.sensor ø [mm]	Option	Article number
Calculator not detachable					
I	0,6		5,2	Module slot	ACBA 000074
I	1,5		5,2	Module slot	ACBB 000075
I	2,5		5,2	Module slot	ACBC 000076
I	0,6		5,2	M-Bus (module installed)	ACBA 000077
I	1,5		5,2	M-Bus (module installed)	ACBB 000078
I	2,5		5,2	M-Bus (module installed)	ACBC 000079
I	0,6		5,2	M-Bus + 3 Pulse inputs (module installed)	ACBA 021092
I	1,5		5,2	M-Bus + 3 Pulse inputs (module installed)	ACBB 021093
I	2,5		5,2	M-Bus + 3 Pulse inputs (module installed)	ACBC 021094
I	0,6		5,2	1 Pulse output (module installed)	ACBA 000080
I	1,5		5,2	1 Pulse output (module installed)	ACBB 000082
I	2,5		5,2	1 Pulse output (module installed)	ACBC 000083
I	0,6		5,2	Radio (integrated)	ACBA 021095
I	1,5		5,2	Radio (integrated)	ACBB 021101
I	2,5		5,2	Radio (integrated)	ACBC 021102
Calculator detachable					
I	0,6		5,2	Module slot	ACBA 000084
I	1,5		5,2	Module slot	ACBB 000085
I	2,5		5,2	Module slot	ACBC 000086
I	0,6		5,2	M-Bus (module installed)	ACBA 000087
I	1,5		5,2	M-Bus (module installed)	ACBB 000088
I	2,5		5,2	M-Bus (module installed)	ACBC 000089
I	0,6		5,2	M-Bus + 3 Pulse inputs (module installed)	ACBA 021103
I	1,5		5,2	M-Bus + 3 Pulse inputs (module installed)	ACBB 021104
I	2,5		5,2	M-Bus + 3 Pulse inputs (module installed)	ACBC 021105
I	0,6		5,2	1 Pulse output (module installed)	ACBA 000090
I	1,5		5,2	1 Pulse output (module installed)	ACBB 000091
I	2,5		5,2	1 Pulse output (module installed)	ACBC 000092
I	0,6		5,2	Radio (integrated)	ACBA 000093
I	1,5		5,2	Radio (integrated)	ACBB 000094
I	2,5		5,2	Radio (integrated)	ACBC 000095

Hint: all capsule meters: there are at maximum 12 single-packed compact meters in a package

Installation set consisting of:

- 1 single pipe connection piece (EAS) with cover and O-ring
- 2 ball valves with coupling rings (incl. gaskets)
- 1 ball valve with M10x1



Type	Length [mm]	DN	Connection	Article number
SE-EAS-KH-110- 0,6/1,5	110	15	G½B	050000000
SE-EAS-KH-130-2,5	130	20	G1B	050000001
M 10 x 1 for EAS with integrated shutoff, 50-piece package				020000027

Options for compact heat and cooling meters

SensoStar I

installed at factory

Installation in forward flow
Surcharge for glycol meters (solar systems) - Standard Ethylene glycol 30%
Surcharge cooling meter (incl. programming), only available with removable calculator (not for qp 0,6)
Surcharge heat and cooling meter (incl. programming)
Temperature sensors Ø 6 mm ONLY symmetrical
Attention: It is necessary to select a cable length, subject to a surcharge
Forward flow temperature sensor cable, length 3 m (asymmetrical = return flow temp. sensor integrated)
Forward flow temperature sensor cable, length 6 m (asymmetrical = return flow temp. sensor integrated)
Forward and return flow temperature sensor cable, length 1,5 m (symmetrical = both temp. sensors outside)
Forward and return flow temperature sensor cable, length 3 m (symmetrical = both temp. sensors outside)
Forward and return flow temperature sensor cable, length 6 m (symmetrical = both temp. sensors outside)
3 pulse inputs (for meters with Radio or M-bus)
2 pulse outputs

Special programming (order related)
Special programming for glycol meters (Glycol type propylene or ethylene & concentration)
Special programming for individual reading date (Standard 31/12)
Pre-programmed primary M-Bus adress
Pre-programmed secondary M-Bus adress
Other individual programming

**Compact heat meters with multi-jet flow sensor,
for metering points with 110 or 130 mm installation length**

SensoStar Q

- Dynamic temperature measuring cycle 2/60 sec.
- Large, easy-to-read display
- 15 monthly and half-monthly values readable in display
- Backflow detection
- Optical interface
- Installation in return flow
- Return flow temperature sensor integrated
- Forward flow temperature sensor with 1,5 m connecting cable
- Silicone cable for the temperature sensors
- Including seals
- 50 cm connection cable and wall-mounting set for detachable calculator



Type	Nominal size qp	Length [mm]	DN	Connec-tion	Temp.sensor Ø [mm]	Option	Article number
Calculator not detachable							
Q	0,6	110	15	G¾B	5,0	Module slot	ACDA 000096
Q	1,5	110	15	G¾B	5,0	Module slot	ACDB 000097
Q	2,5	130	20	G1B	5,0	Module slot	ACDC 000098
Q	0,6	110	15	G¾B	5,0	M-Bus (module installed)	ACDA 000099
Q	1,5	110	15	G¾B	5,0	M-Bus (module installed)	ACDB 000100
Q	2,5	130	20	G1B	5,0	M-Bus (module installed)	ACDC 000101
Q	0,6	110	15	G¾B	5,0	M-Bus + 3 Pulse inputs (module installed)	ACDA 021106
Q	1,5	110	15	G¾B	5,0	M-Bus + 3 Pulse inputs (module installed)	ACDB 021107
Q	2,5	130	20	G1B	5,0	M-Bus + 3 Pulse inputs (module installed)	ACDC 021108
Q	0,6	110	15	G¾B	5,0	1 Pulse output (module installed)	ACDA 000102
Q	1,5	110	15	G¾B	5,0	1 Pulse output (module installed)	ACDB 000103
Q	2,5	130	20	G1B	5,0	1 Pulse output (module installed)	ACDC 000104
Q	0,6	110	15	G¾B	5,0	Radio (integrated)	ACDA 021109
Q	1,5	110	15	G¾B	5,0	Radio (integrated)	ACDB 008276
Q	2,5	130	20	G1B	5,0	Radio (integrated)	ACDC 008277
Calculator detachable							
Q	0,6	110	15	G¾B	5,0	Module slot	ACDA 000105
Q	1,5	110	15	G¾B	5,0	Module slot	ACDB 000106
Q	2,5	130	20	G1B	5,0	Module slot	ACDC 000107
Q	0,6	110	15	G¾B	5,0	M-Bus (module installed)	ACDA 000108
Q	1,5	110	15	G¾B	5,0	M-Bus (module installed)	ACDB 000109
Q	2,5	130	20	G1B	5,0	M-Bus (module installed)	ACDC 000110
Q	0,6	110	15	G¾B	5,0	M-Bus + 3 Pulse inputs (module installed)	ACDA 021127
Q	1,5	110	15	G¾B	5,0	M-Bus + 3 Pulse inputs (module installed)	ACDB 021128
Q	2,5	130	20	G1B	5,0	M-Bus + 3 Pulse inputs (module installed)	ACDC 021129
Q	0,6	110	15	G¾B	5,0	1 Pulse output (module installed)	ACDA 000111
Q	1,5	110	15	G¾B	5,0	1 Pulse output (module installed)	ACDB 000112
Q	2,5	130	20	G1B	5,0	1 Pulse output (module installed)	ACDC 000113
Q	0,6	110	15	G¾B	5,0	Radio (integrated)	ACDA 000114
Q	1,5	110	15	G¾B	5,0	Radio (integrated)	ACDB 000115
Q	2,5	130	20	G1B	5,0	Radio (integrated)	ACDC 000116

Hint: Meters till length 130 mm: there are at maximum 12 single-packed compact meters in a package

Type	Nominal size qp	Length [mm]	DN	Connec-tion	Temp.sensor Ø [mm]	Option	Article number
Calculator not detachable							
Q	0,6	110	15	G¾B	5,2	Module slot	ACDA 000117
Q	1,5	110	15	G¾B	5,2	Module slot	ACDB 000118
Q	2,5	130	20	G1B	5,2	Module slot	ACDC 000119
Q	0,6	110	15	G¾B	5,2	M-Bus (module installed)	ACDA 000120
Q	1,5	110	15	G¾B	5,2	M-Bus (module installed)	ACDB 000121
Q	2,5	130	20	G1B	5,2	M-Bus (module installed)	ACDC 000122
Q	0,6	110	15	G¾B	5,2	M-Bus + 3 Pulse inputs (module installed)	ACDC 021130
Q	1,5	110	15	G¾B	5,2	M-Bus + 3 Pulse inputs (module installed)	ACDB 021373
Q	2,5	130	20	G1B	5,2	M-Bus + 3 Pulse inputs (module installed)	ACDC 021142
Q	0,6	110	15	G¾B	5,2	1 Pulse output (module installed)	ACDA 000123
Q	1,5	110	15	G¾B	5,2	1 Pulse output (module installed)	ACDB 000124
Q	2,5	130	20	G1B	5,2	1 Pulse output (module installed)	ACDC 000125
Q	0,6	110	15	G¾B	5,2	Radio (integrated)	ACDA 021374
Q	1,5	110	15	G¾B	5,2	Radio (integrated)	ACDB 021144
Q	2,5	130	20	G1B	5,2	Radio (integrated)	ACDC 021145
Calculator detachable							
Q	0,6	110	15	G¾B	5,2	Module slot	ACDA 000126
Q	1,5	110	15	G¾B	5,2	Module slot	ACDB 000127
Q	2,5	130	20	G1B	5,2	Module slot	ACDC 000128
Q	0,6	110	15	G¾B	5,2	M-Bus (module installed)	ACDA 000129
Q	1,5	110	15	G¾B	5,2	M-Bus (module installed)	ACDB 000130
Q	2,5	130	20	G1B	5,2	M-Bus (module installed)	ACDC 000131
Q	0,6	110	15	G¾B	5,2	M-Bus + 3 Pulse inputs (module installed)	ACDA 021151
Q	1,5	110	15	G¾B	5,2	M-Bus + 3 Pulse inputs (module installed)	ACDB 021152
Q	2,5	130	20	G1B	5,2	M-Bus + 3 Pulse inputs (module installed)	ACDC 021153
Q	0,6	110	15	G¾B	5,2	1 Pulse output (module installed)	ACDA 000132
Q	1,5	110	15	G¾B	5,2	1 Pulse output (module installed)	ACDB 000133
Q	2,5	130	20	G1B	5,2	1 Pulse output (module installed)	ACDC 000134
Q	0,6	110	15	G¾B	5,2	Radio (integrated)	ACDA 000135
Q	1,5	110	15	G¾B	5,2	Radio (integrated)	ACDB 000136
Q	2,5	130	20	G1B	5,2	Radio (integrated)	ACDC 000137

Hint: Meters till length 130 mm: there are at maximum 12 single-packed compact meters in a package

Installation set consisting of:

- 1 adapter
- 2 ball valves with coupling rings (incl. gaskets)
- 1 ball valve with M10x1



Type	Length [mm]	DN	Connection	Temp.sensor Ø [mm]	Article number
SE-PS-3KH-110-0,6/1,5	110	15	G¾B	5,0 / 5,2	0050000106
SE-PS-3KH-130-2,5	130	20	G1B	5,0 / 5,2	0050000107

Refitting and exchange modules see page 25

Options for compact heat and cooling meters

SensoStar Q

installed at factory

Installation in forward flow
Surcharge for glycol meters (solar systems) - Standard Ethylene glycol 30%
Surcharge cooling meter (incl. programming), only available with removable calculator (not for qp 0,6)
Surcharge heat and cooling meter (incl. programming)
Temperature sensors Ø 6 mm ONLY symmetrical Attention: It is necessary to select a cable length, subject to a surcharge
Forward flow temperature sensor cable, length 3 m (asymmetrical = return flow temp. sensor integrated)
Forward flow temperature sensor cable, length 6 m (asymmetrical = return flow temp. sensor integrated)
Forward and return flow temperature sensor cable, length 1,5 m (symmetrical = both temp. sensors outside)
Forward and return flow temperature sensor cable, length 3 m (symmetrical = both temp. sensors outside)
Forward and return flow temperature sensor cable, length 6 m (symmetrical = both temp. sensors outside)
3 pulse inputs (for meters with Radio or M-bus)
2 pulse outputs

Special programming (order related)
Special programming for glycol meters (Glycol type propylene or ethylene & concentration)
Special programming for individual reading date (Standard 31/12)
Pre-programmed primary M-Bus adress
Pre-programmed secondary M-Bus adress
Other individual programming

Compact heat meters with multi-jet flow sensor,
compatible with connection piece M77x1,5 (1"), acc. to EN 4064 - A1 (old EN 14154)

SensoStar A (Allmess/Itron)

- Dynamic temperature measuring cycle 2/60 sec.
- Large, easy-to-read display
- 15 monthly and half-monthly values readable in display
- Backflow detection
- Optical interface
- Installation in return flow
- Return sensor 50 cm connection cable
- Forward flow temperature sensor with 1,5 m connecting cable
- Silicone cable for the temperature sensors
- Including seals



*

Type	Nominal size qp		Temp.sensor Ø [mm]	Option	Article number
Calculator detachable					
A	0,6		6,0	Module slot	ACCA 000138
A	1,5		6,0	Module slot	ACCB 000139
A	2,5		6,0	Module slot	ACCC 001276
A	0,6		6,0	M-Bus (module installed)	ACCA 000141
A	1,5		6,0	M-Bus (module installed)	ACCB 000142
A	2,5		6,0	M-Bus (module installed)	ACCC 000143
A	0,6		6,0	M-Bus + 3 Pulse inputs (module installed)	ACCA 021154
A	1,5		6,0	M-Bus + 3 Pulse inputs (module installed)	ACCB 021155
A	2,5		6,0	M-Bus + 3 Pulse inputs (module installed)	ACCC 021156
A	0,6		6,0	1 Pulse output (module installed)	ACCA 000144
A	1,5		6,0	1 Pulse output (module installed)	ACCB 000145
A	2,5		6,0	1 Pulse output (module installed)	ACCC 000146
A	0,6		6,0	Radio (integrated)	ACCA 000147
A	1,5		6,0	Radio (integrated)	ACCB 000148
A	2,5		6,0	Radio (integrated)	ACCC 000149

Hint: all capsule meters: there are at maximum 12 single-packed compact meters in a package

Options for compact heat and cooling meters SensoStar A (installed at factory)
Installation in forward flow
Surcharge for glycol meters (solar systems) - Standard Ethylene glycol 30%
Surcharge cooling meter (incl. programming), only available with removable calculator (not for qp 0,6)
Surcharge heat and cooling meter (incl. programming)
Temperature sensors Ø 5,0 or 5,2 mm ONLY symmetrical
Attention: It is necessary to select a cable length, subject to a surcharge
Forward flow temperature sensor cable, length 3 m (asymmetrical = return flow temp. sensor integrated)
Forward flow temperature sensor cable, length 6 m (asymmetrical = return flow temp. sensor integrated)
Forward and return flow temperature sensor cable, length 1,5 m (symmetrical = both temp. sensors outside)
Forward and return flow temperature sensor cable, length 3 m (symmetrical = both temp. sensors outside)
Forward and return flow temperature sensor cable, length 6 m (symmetrical = both temp. sensors outside)
3 pulse inputs (for meters with Radio or M-bus)
2 pulse outputs

Special programming (order related)
Special programming for glycol meters (Glycol type propylene or ethylene & concentration)
Special programming for individual reading date (Standard 31/12)
Pre-programmed primary M-Bus adress
Pre-programmed secondary M-Bus adress
Other individual programming

Refitting and exchange modules see page 25

Compact heat meters with multi-jet flow sensor,
compatible with connection piece M62x2, acc. to EN 4064 - TE1 (old EN 14154)

SensoStar T (Techem)

- Dynamic temperature measuring cycle 2/60 sec.
- Large, easy-to-read display
- 15 monthly and half-monthly values readable in display
- Backflow detection
- Optical interface
- Installation in return flow
- Return flow temperature sensor integrated
- Forward flow temperature sensor with 1,5 m connecting cable
- Silicone cable for the temperature sensors
- Including seals
- 50 cm connection cable and wall-mounting set for detachable calculator



Type	Nominal size qp		Temp.sensor Ø [mm]	Option	Article number
Calculator detachable					
T	0,6		5,2	Module slot	ACFA 000150
T	1,5		5,2	Module slot	ACFB 000165
T	2,5		5,2	Module slot	ACFC 003306
T	0,6		5,2	M-Bus (module installed)	ACFA 000158
T	1,5		5,2	M-Bus (module installed)	ACFB 000159
T	2,5		5,2	M-Bus (module installed)	ACFC 000160
T	0,6		5,2	M-Bus + 3 Pulse inputs (module installed)	ACFA 021157
T	1,5		5,2	M-Bus + 3 Pulse inputs (module installed)	ACFB 021158
T	2,5		5,2	M-Bus + 3 Pulse inputs (module installed)	ACFC 021159
T	0,6		5,2	1 Pulse output (module installed)	ACFA 000161
T	1,5		5,2	1 Pulse output (module installed)	ACFB 000162
T	2,5		5,2	1 Pulse output (module installed)	ACFC 000163
T	0,6		5,2	Radio (integrated)	ACFA 000329
T	1,5		5,2	Radio (integrated)	ACFB 000330
T	2,5		5,2	Radio (integrated)	ACFC 000331

Hint: all capsule meters: there are at maximum 12 single-packed compact meters in a package

Options for compact heat and cooling meters SensoStar T (installed at factory)
Installation in forward flow
Surcharge for glycol meters (solar systems) - Standard Ethylene glycol 30%
Surcharge cooling meter (incl. programming), only available with removable calculator (not for qp 0,6)
Surcharge heat and cooling meter (incl. programming)
Temperature sensors Ø 6 mm ONLY symmetrical
Attention: It is necessary to select a cable length, subject to a surcharge
Forward flow temperature sensor cable, length 3 m (asymmetrical = return flow temp. sensor integrated)
Forward flow temperature sensor cable, length 6 m (asymmetrical = return flow temp. sensor integrated)
Forward and return flow temperature sensor cable, length 1,5 m (symmetrical = both temp. sensors outside)
Forward and return flow temperature sensor cable, length 3 m (symmetrical = both temp. sensors outside)
Forward and return flow temperature sensor cable, length 6 m (symmetrical = both temp. sensors outside)
3 pulse inputs (for meters with Radio or M-bus)
2 pulse outputs

Special programming (order related)
Special programming for glycol meters (Glycol type propylene or ethylene & concentration)
Special programming for individual reading date (Standard 31/12)
Pre-programmed primary M-Bus adress
Pre-programmed secondary M-Bus adress
Other individual programming

Compact heat meters with multi-jet flow sensor,
compatible with connection piece M60x1,5, acc. to EN 4064 - M60 (old EN 14154)

SensoStar M (Minol)

- Dynamic temperature measuring cycle 2/60 sec.
- Large, easy-to-read display
- 15 monthly and half-monthly values readable in display
- Backflow detection
- Optical interface
- Installation in return flow
- Return flow temperature sensor integrated
- Forward flow temperature sensor with 1,5 m connecting cable
- Silicone cable for the temperature sensors
- Including seals
- 50 cm connection cable and wall-mounting set for detachable calculator



Type	Nominal size qp		Temp.sensor Ø [mm]	Option	Article number
Calculator detachable					
M	0,6		5,0	Module slot	ACGA 000166
M	1,5		5,0	Module slot	ACGB 000167
M	2,5		5,0	Module slot	ACGC 000168
M	0,6		5,0	M-Bus (module installed)	ACGA 000169
M	1,5		5,0	M-Bus (module installed)	ACGB 000170
M	2,5		5,0	M-Bus (module installed)	ACGC 000172
M	0,6		5,0	M-Bus + 3 Pulse inputs (module installed)	ACGA 021160
M	1,5		5,0	M-Bus + 3 Pulse inputs (module installed)	ACGB 021166
M	2,5		5,0	M-Bus + 3 Pulse inputs (module installed)	ACGC 021167
M	0,6		5,0	1 Pulse output (module installed)	ACGA 000173
M	1,5		5,0	1 Pulse output (module installed)	ACGB 000174
M	2,5		5,0	1 Pulse output (module installed)	ACGC 000175
M	0,6		5,0	Radio (integrated)	ACGA 000176
M	1,5		5,0	Radio (integrated)	ACGB 000177
M	2,5		5,0	Radio (integrated)	ACGC 000178

Hint: all capsule meters: there are at maximum 12 single-packed compact meters in a package

Options for compact heat and cooling meters SensoStar M (installed at factory)
Installation in forward flow
Surcharge for glycol meters (solar systems) - Standard Ethylene glycol 30%
Surcharge cooling meter (incl. programming), only available with removable calculator (not for qp 0,6)
Surcharge heat and cooling meter (incl. programming)
Temperature sensors Ø 6 mm ONLY symmetrical
Attention: It is necessary to select a cable length, subject to a surcharge
Forward flow temperature sensor cable, length 3 m (asymmetrical = return flow temp. sensor integrated)
Forward flow temperature sensor cable, length 6 m (asymmetrical = return flow temp. sensor integrated)
Forward and return flow temperature sensor cable, length 1,5 m (symmetrical = both temp. sensors outside)
Forward and return flow temperature sensor cable, length 3 m (symmetrical = both temp. sensors outside)
Forward and return flow temperature sensor cable, length 6 m (symmetrical = both temp. sensors outside)
3 pulse inputs (for meters with Radio or M-bus)
2 pulse outputs
Special programming (order related)
Special programming for glycol meters (Glycol type propylene or ethylene & concentration)
Special programming for individual reading date (Standard 31/12)
Pre-programmed primary M-Bus adress
Pre-programmed secondary M-Bus adress
Other individual programming

Refitting and exchange modules see page 25

SensoStar U (Ultrasonic)

- dynamic temperature measurement: 2/60 sec.
- 15 monthly and half-monthly values readable in display
- back flow detection
- large, easy-to-read display
- optical interface
- installation in return flow
- return flow temperature sensor integrated
- forward flow temperature sensor with 1,5 m connecting cable
- calculator detachable, connection cable 85 cm, incl. wall-mounting set



Type	Nominal size qp	Length [mm]	DN	Connec-tion	Temp.sensor Ø [mm]	Option	Article number
U	0,6	110	15	G3/4B	5,0	Module slot	BDAA 000179
U	1,5	110	15	G3/4B	5,0	Module slot	BDAB 000180
U	1,5	130	20	G1B	5,0	Module slot	BDBB 003551
U	2,5	130	20	G1B	5,0	Module slot	BDBC 000181
U	0,6	110	15	G3/4B	5,0	M-Bus (module installed)	BDAA 000184
U	1,5	110	15	G3/4B	5,0	M-Bus (module installed)	BDAB 000185
U	1,5	130	20	G1B	5,0	M-Bus (module installed)	BDBB 008032
U	2,5	130	20	G1B	5,0	M-Bus (module installed)	BDBC 000186
U	0,6	110	15	G3/4B	5,0	M-Bus + 3 Pulse inputs (module installed)	BDAA 000189
U	1,5	110	15	G3/4B	5,0	M-Bus + 3 Pulse inputs (module installed)	BDAB 000190
U	1,5	130	20	G1B	5,0	M-Bus + 3 Pulse inputs (module installed)	BDBB 008033
U	2,5	130	20	G1B	5,0	M-Bus + 3 Pulse inputs (module installed)	BDBC 000191
U	0,6	110	15	G3/4B	5,0	1 Pulse output (module installed)	BDAA 000194
U	1,5	110	15	G3/4B	5,0	1 Pulse output (module installed)	BDAB 000195
U	1,5	130	20	G1B	5,0	1 Pulse output (module installed)	BDBB 008034
U	2,5	130	20	G1B	5,0	1 Pulse output (module installed)	BDBC 000196
U	0,6	110	15	G3/4B	5,0	Radio (integrated)	BDAA 000199
U	1,5	110	15	G3/4B	5,0	Radio (integrated)	BDAB 000200
U	1,5	130	20	G1B	5,0	Radio (integrated)	BDBB 008035
U	2,5	130	20	G1B	5,0	Radio (integrated)	BDBC 000201
U	0,6	110	15	G3/4B	5,0	Radio (integrated) + 3 Pulse inputs (cable installed)	BDAA 000204
U	1,5	110	15	G3/4B	5,0	Radio (integrated) + 3 Pulse inputs (cable installed)	BDAB 000205
U	1,5	130	20	G1B	5,0	Radio (integrated) + 3 Pulse inputs (cable installed)	BDBB 008037
U	2,5	130	20	G1B	5,0	Radio (integrated) + 3 Pulse inputs (cable installed)	BDBC 000206

Hint: Meters till length 130 mm: there are at maximum 12 single-packed compact meters in a package

Type	Nominal size qp	Length [mm]	DN	Connec-tion	Temp.sensor Ø [mm]	Option	Article number
U	0,6	110	15	G3/4B	5,2	Module slot	BDAA 000209
U	1,5	110	15	G3/4B	5,2	Module slot	BDAB 000210
U	1,5	130	20	G1B	5,2	Module slot	BDBB 008038
U	2,5	130	20	G1B	5,2	Module slot	BDBC 000211
U	0,6	110	15	G3/4B	5,2	M-Bus (module installed)	BDAA 000216
U	1,5	110	15	G3/4B	5,2	M-Bus (module installed)	BDAB 000217
U	1,5	130	20	G1B	5,2	M-Bus (module installed)	BDBB 008039
U	2,5	130	20	G1B	5,2	M-Bus (module installed)	BDBC 000218
U	0,6	110	15	G3/4B	5,2	M-Bus + 3 Pulse inputs (module installed)	BDAA 000221
U	1,5	110	15	G3/4B	5,2	M-Bus + 3 Pulse inputs (module installed)	BDAB 000222
U	1,5	130	20	G1B	5,2	M-Bus + 3 Pulse inputs (module installed)	BDBB 008040
U	2,5	130	20	G1B	5,2	M-Bus + 3 Pulse inputs (module installed)	BDBC 000223
U	0,6	110	15	G3/4B	5,2	1 Pulse output (module installed)	BDAA 000226
U	1,5	110	15	G3/4B	5,2	1 Pulse output (module installed)	BDAB 000227
U	1,5	130	20	G1B	5,2	1 Pulse output (module installed)	BDBB 008041
U	2,5	130	20	G1B	5,2	1 Pulse output (module installed)	BDBC 000228
U	0,6	110	15	G3/4B	5,2	Radio (integrated)	BDAA 000231
U	1,5	110	15	G3/4B	5,2	Radio (integrated)	BDAB 000232
U	1,5	130	20	G1B	5,2	Radio (integrated)	BDBB 008042
U	2,5	130	20	G1B	5,2	Radio (integrated)	BDBC 000233
U	0,6	110	15	G3/4B	5,2	Radio (integrated) + 3 Pulse inputs (cable installed)	BDAA 000237
U	1,5	110	15	G3/4B	5,2	Radio (integrated) + 3 Pulse inputs (cable installed)	BDAB 000238
U	1,5	130	20	G1B	5,2	Radio (integrated) + 3 Pulse inputs (cable installed)	BDBB 008044
U	2,5	130	20	G1B	5,2	Radio (integrated) + 3 Pulse inputs (cable installed)	BDBC 000239

Hint: Meters till length 130 mm: there are at maximum 12 single-packed compact meters in a package

Options for compact heat and cooling meters SensoStar U qp 0,6 - 2,5 (installed at factory)
Installation in forward flow
Surcharge cooling meter (incl. programming) (not for qp 0,6)
Surcharge heat and cooling meter (incl. programming)
Forward flow temperature sensor cable, length 3 m (asymmetrical = return flow temp. sensor integrated)
Forward flow temperature sensor cable, length 6 m (asymmetrical = return flow temp. sensor integrated)
Forward flow temperature sensor cable, length 6 m, return flow temperature sensor 3 m (asymmetrical = return flow sensor integrated) needed in combination with connection cable 3 m (to be ordered separately, see below)
Forward and return flow temperature sensor cable, length 1,5 m (symmetrical = both temp. sensors outside)
Forward and return flow temperature sensor cable, length 3 m (symmetrical = both temp. sensors outside)
Forward and return flow temperature sensor cable, length 6 m (symmetrical = both temp. sensors outside)
Temperature sensors Ø 6 mm (please select if integrated or outside)
AGFW temperature sensors 27,5 mm (length 1,5 m) for direct mounting (not compatible with ultrasonic compact meters qp 10) (please specify symmetrical or asymmetrical installation)
AGFW temperature sensors 38,0 mm (length 1,5 m) for direct mounting (only possible for ultrasonic compact meters DN 25 + DN 40) (please specify symmetrical or asymmetrical installation)
High temperature (heat till 130 °C; heat/cooling till 120 °C)
Connection cable for detachable calculator, 3 m (only possible in combination with 3 m temperature sensors)
3 pulse inputs (for meters with Radio or M-bus)
2 pulse outputs
Special programming (order related)
Pre-programmed individual reading date (Standard 31/12)
Pre-programmed primary M-Bus adress
Pre-programmed secondary M-Bus adress
Other individual programming

Type	Nominal size qp	Length [mm]	DN	Connec-tion	Temp.sensor Ø [mm]	Option	Article number
U	3,5	130	20	G1B	5,0	Module slot	BDBD 000182
U	3,5	150	25	G1 1/4B	5,0	Module slot	BDED 000183
U	3,5	130	20	G1B	5,0	M-Bus (module installed)	BDBD 000187
U	3,5	150	25	G1 1/4B	5,0	M-Bus (module installed)	BDED 000188
U	3,5	130	20	G1B	5,0	M-Bus + 3 Pulse inputs (module installed)	BDBD 000192
U	3,5	150	25	G1 1/4B	5,0	M-Bus + 3 Pulse inputs (module installed)	BDED 000193
U	3,5	130	20	G1B	5,0	1 Pulse output (module installed)	BDBD 000197
U	3,5	150	25	G1 1/4B	5,0	1 Pulse output (module installed)	BDED 000198
U	3,5	130	20	G1B	5,0	Radio (integrated)	BDBD 000202
U	3,5	150	25	G1 1/4B	5,0	Radio (integrated)	BDED 000203
U	3,5	130	20	G1B	5,0	Radio (integrated) + 3 Pulse inputs (cable installed)	BDBD 000207
U	3,5	150	25	G1 1/4B	5,0	Radio (integrated) + 3 Pulse inputs (cable installed)	BDED 000208
U	3,5	130	20	G1B	5,2	Module slot	BDBD 000212
U	3,5	150	25	G1 1/4B	5,2	Module slot	BDED 000213
U	3,5	130	20	G1B	5,2	M-Bus (module installed)	BDBD 000219
U	3,5	150	25	G1 1/4B	5,2	M-Bus (module installed)	BDED 000220
U	3,5	130	20	G1B	5,2	M-Bus + 3 Pulse inputs (module installed)	BDBD 000224
U	3,5	150	25	G1 1/4B	5,2	M-Bus + 3 Pulse inputs (module installed)	BDED 000225
U	3,5	130	20	G1B	5,2	1 Pulse output (module installed)	BDBD 000229
U	3,5	150	25	G1 1/4B	5,2	1 Pulse output (module installed)	BDED 000230
U	3,5	130	20	G1B	5,2	Radio (integrated)	BDBD 000234
U	3,5	150	25	G1 1/4B	5,2	Radio (integrated)	BDED 000236
U	3,5	130	20	G1B	5,2	Radio (integrated) + 3 Pulse inputs (cable installed)	BDBD 000240
U	3,5	150	25	G1 1/4B	5,2	Radio (integrated) + 3 Pulse inputs (cable installed)	BDED 000241

Hint: Meters till length 130 mm: there are at maximum 12 single-packed compact meters in a package
Meters with length 150 mm: there are at maximum 6 single-packed compact meters in a package

Options for compact heat and cooling meters SensoStar U qp 3,5 (installed at factory)
Installation in forward flow
Surcharge cooling meter (incl. programming) (not for qp 0,6)
Surcharge heat and cooling meter (incl. programming)
Forward flow temperature sensor cable, length 3 m (asymmetrical = return flow temp. sensor integrated)
Forward flow temperature sensor cable, length 6 m (asymmetrical = return flow temp. sensor integrated)
Forward flow temperature sensor cable, length 6 m, return flow temperature sensor 3 m (asymmetrical = return flow sensor integrated) needed in combination with connection cable 3 m (to be ordered separately, see below)
Forward and return flow temperature sensor cable, length 1,5 m (symmetrical = both temp. sensors outside)
Forward and return flow temperature sensor cable, length 3 m (symmetrical = both temp. sensors outside)
Forward and return flow temperature sensor cable, length 6 m (symmetrical = both temp. sensors outside)
Temperature sensors Ø 6 mm (only outside)
AGFW temperature sensors 27,5 mm (length 1,5 m) for direct mounting (not compatible with ultrasonic compact meters qp 10) (please specify symmetrical or asymmetrical installation)
AGFW temperature sensors 38,0 mm (length 1.5 m) for direct mounting ONLY symmetrical
High temperature (heat till 130 °C; heat/cooling till 120 °C)
Connection cable for detachable calculator, 3 m (only possible in combination with 3 m temperature sensors)
3 pulse inputs (for meters with Radio or M-bus)
2 pulse outputs
Special programming (order related)
Pre-programmed individual reading date (Standard 31/12)
Pre-programmed primary M-Bus adress
Pre-programmed secondary M-Bus adress
Other individual programming

Compact heat meters with ultrasonic flow sensor

SensoStar U

- dynamic temperature measurement: 2/60 sec.
- 15 monthly and half-monthly values readable in display
- back flow detection
- large, easy-to-read display
- optical interface
- installation in return flow
- return flow temperature sensor integrated
- forward flow temperature sensor with 1,5 m connecting cable
- calculator detachable, connection cable 85 cm, incl. wall-mounting set



Type	Nominal size qp	Length [mm]	DN	Connec-tion	Temp.sensor Ø [mm]	Option	Article number
Return flow temperature sensor integrated, forward flow temperature sensor with 1,5 m connecting cable (asymmetrical)							
U	6,0	150	25	G1 1/4B	5,0	Module slot	BDEE 000242
U	6,0	260	25	G1 1/4B	5,0	Module slot	BDGE 000243
U	6,0	150	25	G1 1/4B	5,0	M-Bus (module installed)	BDEE 000244
U	6,0	260	25	G1 1/4B	5,0	M-Bus (module installed)	BDGE 000245
U	6,0	150	25	G1 1/4B	5,0	M-Bus + 3 Pulse inputs (module installed)	BDEE 000246
U	6,0	260	25	G1 1/4B	5,0	M-Bus + 3 Pulse inputs (module installed)	BDGE 000247
U	6,0	150	25	G1 1/4B	5,0	1 Pulse output (module installed)	BDEE 000248
U	6,0	260	25	G1 1/4B	5,0	1 Pulse output (module installed)	BDGE 000249
U	6,0	150	25	G1 1/4B	5,0	Radio (integrated)	BDEE 000250
U	6,0	260	25	G1 1/4B	5,0	Radio (integrated)	BDGE 000251
U	6,0	150	25	G1 1/4B	5,0	Radio (integrated) + 3 Pulse inputs (cable installed)	BDEE 000252
U	6,0	260	25	G1 1/4B	5,0	Radio (integrated) + 3 Pulse inputs (cable installed)	BDGE 000253

Forward and return flow temperature sensor outside with 3 m connecting cable (symmetrical)							
U	6,0	150	25	G1 1/4B	5,0	Module slot	BDEE 000254
U	6,0	260	25	G1 1/4B	5,0	Module slot	BDGE 000255
U	6,0	150	25	G1 1/4B	5,0	M-Bus (module installed)	BDEE 000256
U	6,0	260	25	G1 1/4B	5,0	M-Bus (module installed)	BDGE 000257
U	6,0	150	25	G1 1/4B	5,0	M-Bus + 3 Pulse inputs (module installed)	BDEE 000258
U	6,0	260	25	G1 1/4B	5,0	M-Bus + 3 Pulse inputs (module installed)	BDGE 000259
U	6,0	150	25	G1 1/4B	5,0	1 Pulse output (module installed)	BDEE 000260
U	6,0	260	25	G1 1/4B	5,0	1 Pulse output (module installed)	BDGE 000261
U	6,0	150	25	G1 1/4B	5,0	Radio (integrated)	BDEE 000262
U	6,0	260	25	G1 1/4B	5,0	Radio (integrated)	BDGE 000263
U	6,0	150	25	G1 1/4B	5,0	Radio (integrated) + 3 Pulse inputs (cable installed)	BDEE 000264
U	6,0	260	25	G1 1/4B	5,0	Radio (integrated) + 3 Pulse inputs (cable installed)	BDGE 000265

Hint: Meters with length 150 + 260 mm: there are at maximum 6 single-packed compact meters in a package

Type	Nominal size qp	Length [mm]	DN	Connec-tion	Temp.sensor Ø [mm]	Option	Article number
Return flow temperature sensor integrated, forward flow temperature sensor with 1,5 m connecting cable (asymmetrical)							
U	6,0	150	25	G1 1/4B	5,2	Module slot	BDEE 000266
U	6,0	260	25	G1 1/4B	5,2	Module slot	BDGE 000267
U	6,0	150	25	G1 1/4B	5,2	M-Bus (module installed)	BDEE 000268
U	6,0	260	25	G1 1/4B	5,2	M-Bus (module installed)	BDGE 000269
U	6,0	150	25	G1 1/4B	5,2	M-Bus + 3 Pulse inputs (module installed)	BDEE 000270
U	6,0	260	25	G1 1/4B	5,2	M-Bus + 3 Pulse inputs (module installed)	BDGE 000271
U	6,0	150	25	G1 1/4B	5,2	1 Pulse output (module installed)	BDEE 000272
U	6,0	260	25	G1 1/4B	5,2	1 Pulse output (module installed)	BDGE 000273
U	6,0	150	25	G1 1/4B	5,2	Radio (integrated)	BDEE 000274
U	6,0	260	25	G1 1/4B	5,2	Radio (integrated)	BDGE 000275
U	6,0	150	25	G1 1/4B	5,2	Radio (integrated) + 3 Pulse inputs (cable installed)	BDEE 000276
U	6,0	260	25	G1 1/4B	5,2	Radio (integrated) + 3 Pulse inputs (cable installed)	BDGE 000277
Forward and return flow temperature sensor outside with 3 m connecting cable (symmetrical)							
U	6,0	150	25	G1 1/4B	5,2	Module slot	BDEE 000278
U	6,0	260	25	G1 1/4B	5,2	Module slot	BDGE 000279
U	6,0	150	25	G1 1/4B	5,2	M-Bus (module installed)	BDEE 000280
U	6,0	260	25	G1 1/4B	5,2	M-Bus (module installed)	BDGE 000281
U	6,0	150	25	G1 1/4B	5,2	M-Bus + 3 Pulse inputs (module installed)	BDEE 000283
U	6,0	260	25	G1 1/4B	5,2	M-Bus + 3 Pulse inputs (module installed)	BDGE 000284
U	6,0	150	25	G1 1/4B	5,2	1 Pulse output (module installed)	BDEE 000285
U	6,0	260	25	G1 1/4B	5,2	1 Pulse output (module installed)	BDGE 000286
U	6,0	150	25	G1 1/4B	5,2	Radio (integrated)	BDEE 000287
U	6,0	260	25	G1 1/4B	5,2	Radio (integrated)	BDGE 000288
U	6,0	150	25	G1 1/4B	5,2	Radio (integrated) + 3 Pulse inputs (cable installed)	BDEE 000289
U	6,0	260	25	G1 1/4B	5,2	Radio (integrated) + 3 Pulse inputs (cable installed)	BDGE 000290
Return flow temperature sensor integrated, forward flow temperature sensor with 1,5 m connecting cable (asymmetrical)							
U	6,0	150	25	G1 1/4B	6,0	Module slot	BDEE 000291
U	6,0	260	25	G1 1/4B	6,0	Module slot	BDGE 000292
U	6,0	150	25	G1 1/4B	6,0	M-Bus (module installed)	BDEE 000293
U	6,0	260	25	G1 1/4B	6,0	M-Bus (module installed)	BDGE 000294
U	6,0	150	25	G1 1/4B	6,0	M-Bus + 3 Pulse inputs (module installed)	BDEE 000295
U	6,0	260	25	G1 1/4B	6,0	M-Bus + 3 Pulse inputs (module installed)	BDGE 000296
U	6,0	150	25	G1 1/4B	6,0	1 Pulse output (module installed)	BDEE 000297
U	6,0	260	25	G1 1/4B	6,0	1 Pulse output (module installed)	BDGE 000298
U	6,0	150	25	G1 1/4B	6,0	Radio (integrated)	BDEE 000299
U	6,0	260	25	G1 1/4B	6,0	Radio (integrated)	BDGE 000300
U	6,0	150	25	G1 1/4B	6,0	Radio (integrated) + 3 Pulse inputs (cable installed)	BDEE 000301
U	6,0	260	25	G1 1/4B	6,0	Radio (integrated) + 3 Pulse inputs (cable installed)	BDGE 000302
Forward and return flow temperature sensor outside with 3 m connecting cable (symmetrical)							
U	6,0	150	25	G1 1/4B	6,0	Module slot	BDEE 000303
U	6,0	260	25	G1 1/4B	6,0	Module slot	BDGE 000304
U	6,0	150	25	G1 1/4B	6,0	M-Bus (module installed)	BDEE 000305
U	6,0	260	25	G1 1/4B	6,0	M-Bus (module installed)	BDGE 000306
U	6,0	150	25	G1 1/4B	6,0	M-Bus + 3 Pulse inputs (module installed)	BDEE 000307
U	6,0	260	25	G1 1/4B	6,0	M-Bus + 3 Pulse inputs (module installed)	BDGE 000308
U	6,0	150	25	G1 1/4B	6,0	1 Pulse output (module installed)	BDEE 000309
U	6,0	260	25	G1 1/4B	6,0	1 Pulse output (module installed)	BDGE 000310
U	6,0	150	25	G1 1/4B	6,0	Radio (integrated)	BDEE 000311
U	6,0	260	25	G1 1/4B	6,0	Radio (integrated)	BDGE 000312
U	6,0	150	25	G1 1/4B	6,0	Radio (integrated) + 3 Pulse inputs (cable installed)	BDEE 000313
U	6,0	260	25	G1 1/4B	6,0	Radio (integrated) + 3 Pulse inputs (cable installed)	BDGE 000314

Hint: Meters with length 150 + 260 mm: there are at maximum 6 single-packed compact meters in a package

Accessories see page 24

Refitting and exchange modules see page 25

SensoStar U

- dynamic temperature measurement: 2/60 sec.
- 15 monthly and half-monthly values readable in display
- back flow detection
- large, easy-to-read display
- optical interface
- installation in return flow
- return flow temperature sensor integrated
- forward flow temperature sensor with 1,5 m connecting cable
- calculator detachable, connection cable 85 cm, incl. wall-mounting set



Type	Nominal size qp	Length [mm]	DN	Connec-tion	Temp.sensor Ø [mm]	Option	Article number
Forward and return flow temperature sensor outside 1,5 m (symmetrical)							
U	10,0	200	40	G2B	5,0	Module slot	BDHF 016681
U	10,0	300	40	G2B	5,0	Module slot	BDIF 018079
U	10,0	200	40	G2B	5,0	M-Bus (module installed)	BDHF 022825
U	10,0	300	40	G2B	5,0	M-Bus (module installed)	BDIF 022861
U	10,0	200	40	G2B	5,0	M-Bus + 3 Pulse inputs (module installed)	BDHF 021658
U	10,0	300	40	G2B	5,0	M-Bus + 3 Pulse inputs (module installed)	BDIF 022863
U	10,0	200	40	G2B	5,0	1 Pulse output (module installed)	BDHF 022864
U	10,0	300	40	G2B	5,0	1 Pulse output (module installed)	BDIF 022865
U	10,0	200	40	G2B	5,0	Radio (integrated)	BDHF 021523
U	10,0	300	40	G2B	5,0	Radio (integrated)	BDIF 018136
U	10,0	200	40	G2B	5,0	Radio (integrated) + 3 Pulse inputs (cable installed)	BDHF 022873
U	10,0	300	40	G2B	5,0	Radio (integrated) + 3 Pulse inputs (cable installed)	BDIF 022874
Forward and return flow temperature sensor outside 3 m (symmetrical)							
U	10,0	200	40	G2B	5,0	Module slot	BDHF 019511
U	10,0	300	40	G2B	5,0	Module slot	BDIF 018494
U	10,0	200	40	G2B	5,0	M-Bus (module installed)	BDHF 018715
U	10,0	300	40	G2B	5,0	M-Bus (module installed)	BDIF 022897
U	10,0	200	40	G2B	5,0	M-Bus + 3 Pulse inputs (module installed)	BDHF 022898
U	10,0	300	40	G2B	5,0	M-Bus + 3 Pulse inputs (module installed)	BDIF 022899
U	10,0	200	40	G2B	5,0	1 Pulse output (module installed)	BDHF 022900
U	10,0	300	40	G2B	5,0	1 Pulse output (module installed)	BDIF 022901
U	10,0	200	40	G2B	5,0	Radio (integrated)	BDHF 017652
U	10,0	300	40	G2B	5,0	Radio (integrated)	BDIF 021116
U	10,0	200	40	G2B	5,0	Radio (integrated) + 3 Pulse inputs (cable installed)	BDHF 022908
U	10,0	300	40	G2B	5,0	Radio (integrated) + 3 Pulse inputs (cable installed)	BDIF 017092

Forward and return flow temperature sensor outside 1,5 m (symmetrical)							
U	10,0	200	40	G2B	5,2	Module slot	BDHF 017414
U	10,0	300	40	G2B	5,2	Module slot	BDIF 018094
U	10,0	200	40	G2B	5,2	M-Bus (module installed)	BDHF 022912
U	10,0	300	40	G2B	5,2	M-Bus (module installed)	BDIF 019246
U	10,0	200	40	G2B	5,2	M-Bus + 3 Pulse inputs (module installed)	BDHF 022914
U	10,0	300	40	G2B	5,2	M-Bus + 3 Pulse inputs (module installed)	BDIF 022915
U	10,0	200	40	G2B	5,2	1 Pulse output (module installed)	BDHF 018751
U	10,0	300	40	G2B	5,2	1 Pulse output (module installed)	BDIF 018752
U	10,0	200	40	G2B	5,2	Radio (integrated)	BDHF 011940
U	10,0	300	40	G2B	5,2	Radio (integrated)	BDIF 019976
U	10,0	200	40	G2B	5,2	Radio (integrated) + 3 Pulse inputs (cable installed)	BDHF 022920
U	10,0	300	40	G2B	5,2	Radio (integrated) + 3 Pulse inputs (cable installed)	BDIF 022921

Hinweis: bei BL 200 sind je Umkarton max. 6 einzelverpackte Kompaktzähler enthalten
bei BL 300 sind je Umkarton max. 4 einzelverpackte Kompaktzähler enthalten

Type	Nominal size qp	Length [mm]	DN	Connec-tion	Temp.sensor Ø [mm]	Option	Article number
Forward and return flow temperature sensor outside 3 m (symmetrical)							
U	10,0	200	40	G2B	5,2	Module slot	BDHF 016669
U	10,0	300	40	G2B	5,2	Module slot	BDIF 017524
U	10,0	200	40	G2B	5,2	M-Bus (module installed)	BDHF 022602
U	10,0	300	40	G2B	5,2	M-Bus (module installed)	BDIF 022925
U	10,0	200	40	G2B	5,2	M-Bus + 3 Pulse inputs (module installed)	BDHF 022926
U	10,0	300	40	G2B	5,2	M-Bus + 3 Pulse inputs (module installed)	BDIF 022927
U	10,0	200	40	G2B	5,2	1 Pulse output (module installed)	BDHF 022928
U	10,0	300	40	G2B	5,2	1 Pulse output (module installed)	BDIF 022929
U	10,0	200	40	G2B	5,2	Radio (integrated)	BDHF 022930
U	10,0	300	40	G2B	5,2	Radio (integrated)	BDIF 022931
U	10,0	200	40	G2B	5,2	Radio (integrated) + 3 Pulse inputs (cable installed)	BDHF 022932
U	10,0	300	40	G2B	5,2	Radio (integrated) + 3 Pulse inputs (cable installed)	BDIF 022933

Return flow temperature sensor 1,5 m integrated, forward flow temperature sensor 1,5 m (asymmetrical)							
U	10,0	200	40	G2B	6,0	Module slot	BDHF 009232
U	10,0	300	40	G2B	6,0	Module slot	BDIF 009233
U	10,0	200	40	G2B	6,0	M-Bus (module installed)	BDHF 009234
U	10,0	300	40	G2B	6,0	M-Bus (module installed)	BDIF 009235
U	10,0	200	40	G2B	6,0	M-Bus + 3 Pulse inputs (module installed)	BDHF 009241
U	10,0	300	40	G2B	6,0	M-Bus + 3 Pulse inputs (module installed)	BDIF 009242
U	10,0	200	40	G2B	6,0	1 Pulse output (module installed)	BDHF 009243
U	10,0	300	40	G2B	6,0	1 Pulse output (module installed)	BDIF 009244
U	10,0	200	40	G2B	6,0	Radio (integrated)	BDHF 009245
U	10,0	300	40	G2B	6,0	Radio (integrated)	BDIF 009246
U	10,0	200	40	G2B	6,0	Radio (integrated) + 3 Pulse inputs (cable installed)	BDHF 009247
U	10,0	300	40	G2B	6,0	Radio (integrated) + 3 Pulse inputs (cable installed)	BDIF 009248
Return flow temperature sensor 1,5 m integrated, forward flow temperature sensor 3 m (asymmetrical)							
U	10,0	200	40	G2B	6,0	Module slot	BDHF 009249
U	10,0	300	40	G2B	6,0	Module slot	BDIF 009250
U	10,0	200	40	G2B	6,0	M-Bus (module installed)	BDHF 009256
U	10,0	300	40	G2B	6,0	M-Bus (module installed)	BDIF 009257
U	10,0	200	40	G2B	6,0	M-Bus + 3 Pulse inputs (module installed)	BDHF 009258
U	10,0	300	40	G2B	6,0	M-Bus + 3 Pulse inputs (module installed)	BDIF 009259
U	10,0	200	40	G2B	6,0	1 Pulse output (module installed)	BDHF 009260
U	10,0	300	40	G2B	6,0	1 Pulse output (module installed)	BDIF 009281
U	10,0	200	40	G2B	6,0	Radio (integrated)	BDHF 009282
U	10,0	300	40	G2B	6,0	Radio (integrated)	BDIF 009283
U	10,0	200	40	G2B	6,0	Radio (integrated) + 3 Pulse inputs (cable installed)	BDHF 009284
U	10,0	300	40	G2B	6,0	Radio (integrated) + 3 Pulse inputs (cable installed)	BDIF 009285
Forward and return flow temperature sensor outside 3 m (symmetrical)							
U	10,0	200	40	G2B	6,0	Module slot	BDHF 009291
U	10,0	300	40	G2B	6,0	Module slot	BDIF 009292
U	10,0	200	40	G2B	6,0	M-Bus (module installed)	BDHF 009293
U	10,0	300	40	G2B	6,0	M-Bus (module installed)	BDIF 009294
U	10,0	200	40	G2B	6,0	M-Bus + 3 Pulse inputs (module installed)	BDHF 009295
U	10,0	300	40	G2B	6,0	M-Bus + 3 Pulse inputs (module installed)	BDIF 009296
U	10,0	200	40	G2B	6,0	1 Pulse output (module installed)	BDHF 009297
U	10,0	300	40	G2B	6,0	1 Pulse output (module installed)	BDIF 009298
U	10,0	200	40	G2B	6,0	Radio (integrated)	BDHF 009299
U	10,0	300	40	G2B	6,0	Radio (integrated)	BDIF 009300
U	10,0	200	40	G2B	6,0	Radio (integrated) + 3 Pulse inputs (cable installed)	BDHF 009301
U	10,0	300	40	G2B	6,0	Radio (integrated) + 3 Pulse inputs (cable installed)	BDIF 009302

Hinweis: bei BL 200 sind je Umkarton max. 6 einzelverpackte Kompaktzähler enthalten
bei BL 300 sind je Umkarton max. 4 einzelverpackte Kompaktzähler enthalten

Type	Nominal size qp	Length [mm]	DN	Connec-tion	Temp.sensor Ø [mm]	Option	Article number
Return flow temperature sensor 1,5 m integrated, forward flow temperature sensor 1,5 m (asymmetrical)							
U	10,0	200	40	G2B	AGFW 38 mm	Module slot	BDHF 017821
U	10,0	300	40	G2B	AGFW 38 mm	Module slot	BDIF 022507
U	10,0	200	40	G2B	AGFW 38 mm	M-Bus (module installed)	BDHF 022941
U	10,0	300	40	G2B	AGFW 38 mm	M-Bus (module installed)	BDIF 022942
U	10,0	200	40	G2B	AGFW 38 mm	M-Bus + 3 Pulse inputs (module installed)	BDHF 022943
U	10,0	300	40	G2B	AGFW 38 mm	M-Bus + 3 Pulse inputs (module installed)	BDIF 022944
U	10,0	200	40	G2B	AGFW 38 mm	1 Pulse output (module installed)	BDHF 022945
U	10,0	300	40	G2B	AGFW 38 mm	1 Pulse output (module installed)	BDIF 022946
U	10,0	200	40	G2B	AGFW 38 mm	Radio (integrated)	BDHF 022510
U	10,0	300	40	G2B	AGFW 38 mm	Radio (integrated)	BDIF 022508
U	10,0	200	40	G2B	AGFW 38 mm	Radio (integrated) + 3 Pulse inputs (cable installed)	BDHF 022949
U	10,0	300	40	G2B	AGFW 38 mm	Radio (integrated) + 3 Pulse inputs (cable installed)	BDIF 022950
Return flow temperature sensor 1,5 m integrated, forward flow temperature sensor 3 m (asymmetrical)							
U	10,0	200	40	G2B	AGFW 38 mm	Module slot	BDHF 022957
U	10,0	300	40	G2B	AGFW 38 mm	Module slot	BDIF 022958
U	10,0	200	40	G2B	AGFW 38 mm	M-Bus (module installed)	BDHF 022959
U	10,0	300	40	G2B	AGFW 38 mm	M-Bus (module installed)	BDIF 022960
U	10,0	200	40	G2B	AGFW 38 mm	M-Bus + 3 Pulse inputs (module installed)	BDHF 022961
U	10,0	300	40	G2B	AGFW 38 mm	M-Bus + 3 Pulse inputs (module installed)	BDIF 022962
U	10,0	200	40	G2B	AGFW 38 mm	1 Pulse output (module installed)	BDHF 022963
U	10,0	300	40	G2B	AGFW 38 mm	1 Pulse output (module installed)	BDIF 022964
U	10,0	200	40	G2B	AGFW 38 mm	Radio (integrated)	BDHF 022965
U	10,0	300	40	G2B	AGFW 38 mm	Radio (integrated)	BDIF 022966
U	10,0	200	40	G2B	AGFW 38 mm	Radio (integrated) + 3 Pulse inputs (cable installed)	BDHF 022967
U	10,0	300	40	G2B	AGFW 38 mm	Radio (integrated) + 3 Pulse inputs (cable installed)	BDIF 022968

Hinweis: bei BL 200 sind je Umkarton max. 6 einzelverpackte Kompaktzähler enthalten
bei BL 300 sind je Umkarton max. 4 einzelverpackte Kompaktzähler enthalten

Options for compact heat and cooling meters SensoStar U qp 6 - 10 (installed at factory)
Installation in forward flow
Surcharge cooling meter (incl. programming) (not for qp 0,6)
Surcharge heat and cooling meter (incl. programming)
Forward flow temperature sensor cable, length 3 m (asymmetrical = return flow temp. sensor integrated)
Forward flow temperature sensor cable, length 6 m (asymmetrical = return flow temp. sensor integrated)
Forward flow temperature sensor cable, length 6 m, return flow temperature sensor 3 m (asymmetrical = return flow sensor integrated) needed in combination with connection cable 3 m (to be ordered separately, see below)
Forward and return flow temperature sensor cable, length 1,5 m (symmetrical = both temp. sensors outside)
Forward and return flow temperature sensor cable, length 3 m (symmetrical = both temp. sensors outside)
Forward and return flow temperature sensor cable, length 6 m (symmetrical = both temp. sensors outside)
Temperature sensors Ø 6 mm (only outside)
AGFW temperature sensors 27,5 mm (length 1,5 m) for direct mounting (not compatible with ultrasonic compact meters qp 10) (please specify symmetrical or asymmetrical installation)
AGFW temperature sensors 38,0 mm (length 1,5 m) for direct mounting (only possible for ultrasonic compact meters DN 25 + DN 40) (please specify symmetrical or asymmetrical installation)
High temperature (heat till 130 °C; heat/cooling till 120 °C) expected availability from Q3/2019
Connection cable for detachable calculator, 3 m (only possible in combination with 3 m temperature sensors)
3 pulse inputs (for meters with Radio or M-bus)
2 pulse outputs
Special programming (order related)
Pre-programmed individual reading date (Standard 31/12)
Pre-programmed primary M-Bus adress
Pre-programmed secondary M-Bus adress
Other individual programming

Accessories

Installation set consisting of:

- 1 adapter
- 2 ball valves with coupling rings (incl. gaskets)
- 1 ball valve with M10x1



Type	Length [mm]	DN	Connec-tion	Article number
SE-PS-3KH-110-0,6/1,5	110	15	G¾B	0050000106
SE-PS-3KH-130-2,5	130	20	G1B	0050000107
SE-PS-3KH-150-3,5	150	25	G1 ¼B	0500000052
SE-PS-3KH-260-3,5/6	260	25	G1 ¼B	0500000058

Installation set for meters (return flow temperature sensor not integrable in flow meter) consisting of:

- 1 adapter
- 2 ball valves with coupling rings (incl. gaskets)
- 2 ball valves with M10x1 sockets



Type	Length [mm]	DN	Connec-tion	Article number
SE-PS-4KH-150-3,5/6	150	25	G1¼B	0500000029
SE-PS-4KH-260-3,5/6	260	25	G1¼B	0500000030



Type	Length [mm]	DN	Connec-tion	Article number
Extension piece incl. gasket for qp 3,5 to 260 mm	110	25	G1¼B	0500000056

Type	Article number
Installation kit consisting of wall mounting support with adhesive pad, 50 pieces	0500000074

Modules and accessories - for all compact heat and cooling meters and calculator SensoStar C

(Refitting by opening the casing)

Modules	Order unit	Article number
Radio (module & adhesive seal)	10 pcs	9100600034
Radio (module & adhesive seal) - parameterised	10 pcs	9100600234
M-Bus (module, incl. connection cable & adhesive seal)	10 pcs	9100600030
1 Pulse output (module incl. cable & adhesive seal)	10 pcs	9100600038
2 Pulse outputs (module incl. cable & adhesive seal)	10 pcs	9100600035
3 Pulse inputs (can only be ordered in combination with radio module or M-Bus module)	10 pcs	9100600050

Accessories	Order unit	Article number
Battery-Set (incl. connection cable & adhesive seal) - for all S3 / S3C	10 pcs	9100600100
Power Supply S3 / S3C 230 Volts AC (Alternating current)	1 pc	9100600001
Power Supply S3 / S3C 24 Volts AC (Alternating current)	1 pc	9100600005
Adhesive Seal ES	100 pcs	9100000102

Calculator **SensoStar C** for heat and cooling meters

- Large, easy-to-read LCD display
- Standard: Temperature measuring cycle 60 sec., battery lifetime 10 years
Optional: Temperature measuring cycle 30 sec., battery lifetime 7 years
Optional: Temperature measuring cycle 2 sec. with power supply
- 15 monthly values readable in the display
- Optical interface
- Mounting in return flow
- Incl. adhesive seal
- 2 wire technology



Type	Liters / Pulse	Option	Article number
Heat approval MID			
S3C	1L./pulse	Module slot	DCXX 021866
S3C	2,5L./pulse	Module slot	DCXX 021867
S3C	10L./pulse	Module slot	DCXX 021868
S3C	25L./pulse	Module slot	DCXX 021869
S3C	100L./pulse	Module slot	DCXX 021870
S3C	250L./pulse	Module slot	DCXX 021871
S3C	1000L./pulse	Module slot	DCXX 021872
S3C	2500L./pulse	Module slot	DCXX 021873
S3C	TX	Module slot	DCXX 021874
S3C	1L./pulse	M-Bus (module installed)	DCXX 021875
S3C	2,5L./pulse	M-Bus (module installed)	DCXX 021881
S3C	10L./pulse	M-Bus (module installed)	DCXX 021882
S3C	25L./pulse	M-Bus (module installed)	DCXX 021883
S3C	100L./pulse	M-Bus (module installed)	DCXX 021886
S3C	250L./pulse	M-Bus (module installed)	DCXX 021885
S3C	1000L./pulse	M-Bus (module installed)	DCXX 021887
S3C	2500L./pulse	M-Bus (module installed)	DCXX 021888
S3C	TX	M-Bus (module installed)	DCXX 021889
S3C	1L./pulse	M-Bus + 3 Pulse inputs (module installed)	DCXX 021891
S3C	2,5L./pulse	M-Bus + 3 Pulse inputs (module installed)	DCXX 021892
S3C	10L./pulse	M-Bus + 3 Pulse inputs (module installed)	DCXX 021898
S3C	25L./pulse	M-Bus + 3 Pulse inputs (module installed)	DCXX 021941
S3C	100L./pulse	M-Bus + 3 Pulse inputs (module installed)	DCXX 021900
S3C	250L./pulse	M-Bus + 3 Pulse inputs (module installed)	DCXX 021901
S3C	1000L./pulse	M-Bus + 3 Pulse inputs (module installed)	DCXX 021902
S3C	2500L./pulse	M-Bus + 3 Pulse inputs (module installed)	DCXX 021903
S3C	TX	M-Bus + 3 Pulse inputs (module installed)	DCXX 021904
S3C	1L./pulse	1 Pulse outputs (module installed)	DCXX 021907
S3C	2,5L./pulse	1 Pulse outputs (module installed)	DCXX 021908
S3C	10L./pulse	1 Pulse outputs (module installed)	DCXX 021909
S3C	25L./pulse	1 Pulse outputs (module installed)	DCXX 021910
S3C	100L./pulse	1 Pulse outputs (module installed)	DCXX 021911
S3C	250L./pulse	1 Pulse outputs (module installed)	DCXX 021913
S3C	1000L./pulse	1 Pulse outputs (module installed)	DCXX 021914
S3C	2500L./pulse	1 Pulse outputs (module installed)	DCXX 021915
S3C	TX	1 Pulse outputs (module installed)	DCXX 021916
S3C	1L./pulse	Radio (module installed)	DCXX 021918
S3C	2,5L./pulse	Radio (module installed)	DCXX 021919
S3C	10L./pulse	Radio (module installed)	DCXX 021920
S3C	25L./pulse	Radio (module installed)	DCXX 021921
S3C	100L./pulse	Radio (module installed)	DCXX 021922
S3C	250L./pulse	Radio (module installed)	DCXX 021923
S3C	1000L./pulse	Radio (module installed)	DCXX 021924
S3C	2500L./pulse	Radio (module installed)	DCXX 021925
S3C	TX	Radio (module installed)	DCXX 021926
S3C	1L./pulse	Radio + 3 Pulse inputs (module installed)	DCXX 021927
S3C	2,5L./pulse	Radio + 3 Pulse inputs (module installed)	DCXX 021928
S3C	10L./pulse	Radio + 3 Pulse inputs (module installed)	DCXX 021929
S3C	25L./pulse	Radio + 3 Pulse inputs (module installed)	DCXX 021930
S3C	100L./pulse	Radio + 3 Pulse inputs (module installed)	DCXX 021932
S3C	250L./pulse	Radio + 3 Pulse inputs (module installed)	DCXX 021933
S3C	1000L./pulse	Radio + 3 Pulse inputs (module installed)	DCXX 021934
S3C	2500L./pulse	Radio + 3 Pulse inputs (module installed)	DCXX 021935
S3C	TX	Radio + 3 Pulse inputs (module installed)	DCXX 021936

Options

SensoStar C

installed at factory

Installation in forward flow
Surcharge for glycol meters (solar systems) - Standard Ethylene glycol 30%
Surcharge cooling meter (incl. programming) (not for qp 0,6)
Surcharge heat and cooling meter (incl. programming)
3 pulse inputs (for meters with Radio or M-bus)
1 pulse output
2 pulse output
Battery lifetime 7 years (temperature measuring cycle 30 sec)

Special programming (order related)
Special programming for glycol meters (Glycol type propylene or ethylene & concentration)
Special programming for individual reading date (Standard 31/12)
Pre-programmed primary M-Bus adress
Pre-programmed secondary M-Bus adress
Other individual programming

Ultrasonic flow meters (2WR7) with heat approval



- Battery lifetime 10 years



Type	Nominal size qp	Length [mm]	DN	Liters / pulse	Connection	Article number MID
Threaded connection PN16						
US-VMT/US-BG/qp0,6	0,6	110	15	1L./pulse	G¼B	ER33200-00
US-VMT/US-BG/qp1,5	1,5	110	15	2,5L./pulse	G¼B	ER33240-00
US-VMT/US-BG/qp1,5	1,5	190	20	2,5L./pulse	G1B	ER33241-00
US-VMT/US-BG/qp2,5	2,5	130	20	2,5L./pulse	G1B	ER33242-00
US-VMT/US-BG/qp2,5	2,5	190	20	2,5L./pulse	G1B	ER33243-00
US-VMT/US-BG/qp3,5	3,5	260	25	10L./pulse	G1 ¼B	ER33204-00
US-VMT/US-BG/qp6,0	6	260	25	10L./pulse	G1 ¼B	ER33205-00
US-VMT/US-BG/qp6,0	6	150	25	10L./pulse	G1 ¼B	ER33238-00
US-VMT/US-BG/qp10,0	10	200	40	10L./pulse	G2B	ER33233-00
US-VMT/US-BG/qp10,0	10	300	40	10L./pulse	G2B	ER33206-00
Flange connection PN16						
8-hole						
US-VMT/US-BFL/qp60	60,0	360	100	100L./pulse	-	ER33214-00
Flange connection PN25						
4-hole						
US-VMT/US-BFL/qp3,5	3,5	260	25	10L./pulse	-	ER33207-00
US-VMT/US-BFL/qp6,0	6	260	25	10L./pulse	-	ER33208-00
US-VMT/US-BFL/qp10	10	300	40	10L./pulse	-	ER33209-00
US-VMT/US-BFL/qp15	15	270	50	25L./pulse	-	ER33244-00
US-VMT/US-BFL/qp15	15	200	50	25L./pulse	-	ER33245-00
8-hole						
US-VMT/US-BFL/qp25	25	300	65	25L./pulse	-	ER33246-00
US-VMT/US-BFL/qp40	40	300	80	100L./pulse	-	ER33212-00
US-VMT/US-BFL/qp60	60	360	100	100L./pulse	-	ER33213-00

Accessories and installation sets starting from page 33 (only for devices with threaded connection)

Ultrasonic flow meters (2WR7) with cooling approval



- Ultrasonic flow meter for any mounting position
- Approval: cooling DE
- Electronic flow calculation
- Calculator detachable, connection cable 3m
- Potential free contact (bipolar)
- Measuring device in separat casing
- Pulse output cable 2 m
- Battery lifetime 10 years



Type	Nominal size qp	Length [mm]	DN	Liters / pulse	Connection	Article number MID
Threaded connection PN16						
US-VMT/US-BG/qp0,6	0,6	110	15	1L./pulse	G¾B	ER33251-00
US-VMT/US-BG/qp1,5	1,5	110	15	2,5L./pulse	G¾B	ER33252-00
US-VMT/US-BG/qp1,5	1,5	190	20	2,5L./pulse	G1B	ER33253-00
US-VMT/US-BG/qp2,5	2,5	130	20	2,5L./pulse	G1B	ER33254-00
US-VMT/US-BG/qp2,5	2,5	190	20	2,5L./pulse	G1B	ER33255-00
US-VMT/US-BG/qp3,5	3,5	260	25	10L./pulse	G1 ¼B	ER33256-00
US-VMT/US-BG/qp6,0	6	260	25	10L./pulse	G1 ¼B	ER33257-00
US-VMT/US-BG/qp6,0	6	150	25	10L./pulse	G1 ¼B	ER33258-00
US-VMT/US-BG/qp10,0	10	200	40	10L./pulse	G2B	ER33259-00
US-VMT/US-BG/qp10,0	10	300	40	10L./pulse	G2B	ER33260-00
Flange connection PN16						
8-hole						
US-VMT/US-BFL/qp60	60,0	360	100	100L./pulse	-	ER33261-00
Flange connection PN25						
4-hole						
US-VMT/US-BFL/qp3,5	3,5	260	25	10L./pulse	-	ER33262-00
US-VMT/US-BFL/qp6,0	6	260	25	10L./pulse	-	ER33263-00
US-VMT/US-BFL/qp10	10	300	40	10L./pulse	-	ER33264-00
US-VMT/US-BFL/qp15	15	270	50	25L./pulse	-	ER33265-00
US-VMT/US-BFL/qp15	15	200	50	25L./pulse	-	ER33266-00
8-hole						
US-VMT/US-BFL/qp25	25	300	65	25L./pulse	-	ER33267-00
US-VMT/US-BFL/qp40	40	300	80	100L./pulse	-	ER33231-00
US-VMT/US-BFL/qp60	60	360	100	100L./pulse	-	ER33269-00

Accessories and installation sets starting from page 33 (only for devices with threaded connection)

Flow meters

Ultrasonic flow meters (Sharky)

- Electronic flow calculation
- Heat approval MID
- PTB cold approval



Type		Nominal size qp	Length [mm]	DN	Liters / pulse	Connection	Article number
Sharky, FS473		3,5	135	25	10L./pulse	G5/4B	1500033111
Sharky, FS473		6,0	135	25	10L./pulse	G5/4B	1500033065
Sharky, FS473		6,0	150	32	10L./pulse	G3/2B	1500033066
Sharky, FS473		6,0	260	32	10L./pulse	G3/2B	1500033005
Sharky, FS473	replaces qp10	6,0	150	40	10L./pulse	G2B	1500033067

Woltmann flow meters

- PN 16
- Flange connection
- Mechanic flow calculation
- Heat approval MID



Type	Mounting position	Nominal size qp	Length [mm]	DN	Liters / pulse	Connection	Article number
WP = horizontal or vertical mounting position							
Flow meter-VMT	WPTH-S/FFL	15	200	50	100L./pulse	4-hole	ER33080-00
Flow meter-VMT	WPTH-S/FFL	25	200	65	100L./pulse	4-hole	ER33081-00
Flow meter-VMT	WPTH-S/FFL	32	225	80	100L./pulse	8-hole	ER33082-00
Flow meter-VMT	WPTH-S/FFL	32	200	80	100L./pulse	8-hole	ER33104-00
Flow meter-VMT	WPTH-S/FFL	50	250	100	100L./pulse	8-hole	ER33100-00
Flow meter-VMT	WPTH-S/FFL	80	250	125	100L./pulse	8-hole	ER33101-00
Flow meter-VMT	WPTH-S/FFL	200	300	150	1000L./pulse	8-hole	ER33102-00
WS = only horizontal mounting position							
Flow meter-VMT	WSTH-WFL	15	270	50	100L./pulse	4-hole	ER33090-00
Flow meter-VMT	WSTH-WFL	25	300	65	100L./pulse	4-hole	ER33091-00
Flow meter-VMT	WSTH-WFL	40	300	80	100L./pulse	8-hole	ER33092-00
Flow meter-VMT	WSTH-WFL	60	360	100	100L./pulse	8-hole	ER33093-00
Flow meter-VMT	WSTH-WFL	150	500	150	1000L./pulse	8-hole	ER33094-00

Multi-jet flow meters

FlowStar Q

- Connection dimensions same as single-jet flow meters
- Mechanic flow calculation
- Calculator SensoStar 3C to be ordered separately
- Temperature sensors to be ordered separately



Type	Nominal size qp	Length [mm]	DN	Connection	Liters / pulse	Article number
Heat approval MID, cable for calculator 3 m						
FlowStar Q	0,6	110	15	G3/4B	1L./pulse	1100500113
FlowStar Q	1,5	110	15	G3/4B	1L./pulse	1100500114
FlowStar Q	2,5	130	20	G1B	1L./pulse	1100500115
Cooling approval DE, cable for calculator 3 m						
FlowStar Q	1,5	110	15	G3/4B	1L./pulse	1100500117
FlowStar Q	2,5	130	20	G1B	1L./pulse	1100500118
Heat approval MID, cable for calculator 10 m						
FlowStar Q	0,6	110	15	G3/4B	1L./pulse	1100500119
FlowStar Q	1,5	110	15	G3/4B	1L./pulse	1100500120
FlowStar Q	2,5	130	20	G1B	1L./pulse	1100500121
Cooling approval DE, cable for calculator 10 m						
FlowStar Q	1,5	110	15	G3/4B	1L./pulse	1100500123
FlowStar Q	2,5	130	20	G1B	1L./pulse	1100500124

FlowStar I

- Multi-jet flow meter compatible with connection pieces EN 4064 - IST 2" (old EN 14154)
- Mechanic flow calculation
- Calculator SensoStar 3C to be ordered separately
- Temperature sensors to be ordered separately



Type	Nominal size qp		Connection	Liters / pulse	Article number
Heat approval MID, cable for calculator 3 m					
FlowStar I	0,6	-	-	1L./pulse	1100500101
FlowStar I	1,5	-	-	1L./pulse	1100500102
FlowStar I	2,5	-	-	1L./pulse	1100500103
Cooling approval DE, cable for calculator 3 m					
FlowStar I	1,5	-	-	1L./pulse	1100500105
FlowStar I	2,5	-	-	1L./pulse	1100500106
Heat approval MID, cable for calculator 10 m					
FlowStar I	0,6	-	-	1L./pulse	1100500107
FlowStar I	1,5	-	-	1L./pulse	1100500108
FlowStar I	2,5	-	-	1L./pulse	1100500109
Cooling approval DE, cable for calculator 10 m					
FlowStar I	1,5	-	-	1L./pulse	1100500111
FlowStar I	2,5	-	-	1L./pulse	1100500112

Accessories and installation sets starting from page 33

Temperature sensors

Temperature sensor pairs Pt500 suitable for calculator SensoStar C

Universal temperature sensors (UTS)



- 2 wire technology

Type		Temp.sensor \varnothing [mm]	Cable length [m]	Article number
Heat approval MID / cooling approval DE				
UTS-5,0 mm-2AH		5,0	3	1121106001
UTS-5,0 mm-2AH		5,0	10	1121106002
UTS-5,2 mm		5,2	3	1121106003
UTS-5,2 mm		5,2	10	1121106004
UTS-6,0 mm-5AH		6,0	3	1121106005
UTS-6,0 mm-5AH		6,0	10	1121106006

Temperature sensor pair AGFW

- with threaded connection M10x1, for direct mounting
- 2 wire technology
- Sensor diameter front 3,7 mm



Type	Immersion depth [mm]	Temp.sensor tip \varnothing [mm]	Cable length [m]	Article number
Heat approval MID / cooling approval DE				
AGFW-27,5 mm	27,5	5,0	3	1121106007
AGFW-27,5 mm	27,5	5,0	10	1121106008
AGFW-38 mm	38	5,0	3	1121106009
AGFW-38 mm	38	5,0	10	1121106010
AGFW-60 mm	60	5,0	3	1121106011
AGFW-60 mm	60	5,0	10	1121106012

Hint: AGFW 27,5 mm until DN 32, AGFW 38 mm until DN 50

consisting of:

- 1 EAS (2") incl. overflow lange and gasket
- 2 threaded fittings (incl. gaskets)
- 1 ball valve with M10x1 socket



Type	Length [mm]	DN	Connection	Article number
SE-EAS-V	110	15	G¾B	0500000002
SE-EAS-V	130	20	G1B	0500000003

consisting of:

- 1 EAS (2") incl. overflow lange and gasket
- 2 ball valves with coupling rings (incl. gaskets)
- 1 ball valve with M10x1 socket



Type	Length [mm]	DN	Connection	Article number
SE-EAS-3KH	110	15	G¾B	0500000000
SE-EAS-3KH	130	20	G1B	0500000001

consisting of:

- 1 adapter
- 2 threaded fittings (incl. gaskets)
- 1 ball valve with M10x1 socket



Type	Length [mm]	DN	Connection	Article number
SE-PS-V	110	15	G¾B	0500000004
SE-PS-V	130	20	G1B	0500000005
SE-PS-V	150	25	G1 ¼B	0500000051
SE-PS-V	260	25	G1 ¼B	0500000053
SE-PS-V	200	40	G2B	0500000054
SE-PS-V	300	40	G2B	0500000055

Installation set for meters (return flow sensor can not be installed in flow meter):

consisting of:

- 1 adapter
- 2 threaded fittings (incl. gaskets)
- 2 ball valves with M10x1 sockets



Type	Length [mm]	DN	Connection	Article number
SE-PS-V-2KH	150	25	G1 ¼B	0500000021
SE-PS-V-2KH	260	25	G1 ¼B	0500000020
SE-PS-V-2KH	200	40	G2B	0500000037
SE-PS-V-2KH	300	40	G2B	0500000039

Hint:

For these ball valves only temp. sensors 5,0 / 5,2 mm can be used (alternatively AGFW 27,5 / 38 mm temp.sensors)

consisting of:

- 1 adapter
- 2 ball valves with coupling rings (incl. gaskets)
- 1 ball valve with M10x1 socket



Type	Length [mm]	DN	Connection	Article number
SE-PS-3KH	110	15	G¾B	0050000106
SE-PS-3KH	130	20	G1B	0050000107
SE-PS-3KH	190	20	G1B	0500000031
SE-PS-3KH	150	25	G1 ¼B	0500000052
SE-PS-3KH	260	25	G1 ¼B	0500000058
SE-PS-3KH	200	40	G2B	0500000059
SE-PS-3KH	300	40	G2B	0500000060

Installation set for meters (return flow sensor can not be installed in flow meter):

consisting of:

- 1 adapter
- 2 ball valves with coupling rings (incl. gaskets)
- 2 ball valves with M10x1 sockets



Type	Length [mm]	DN	Connection	Article number
SE-PS-4KH	150	25	G1¼B	0500000029
SE-PS-4KH	260	25	G1¼B	0500000030
SE-PS-4KH	200	40	G2B	0500000036
SE-PS-4KH	300	40	G2B	0500000038

Single pipe connection piece (EAS 2"):

- incl. gasket
- without overflow cap (lid)



Type	Length [mm]	DN	Connection	Article number
EAS-A-110-¾	110	15	G¾B	0500000067
EAS-A-130-1	130	20	G1B	0500000066
EAS-A-105-1	105	20	G1B	0500000023
EAS-A-190-1	190	20	G1B	0500000024
Overflow cap separate, incl. gasket	-	-	-	0500000012

Forward flow adapter

for a direct mounted temperature sensor in a T-piece (incl. gasket)



Type	Connection	Article number
VAD-M10x1	1/2"	ER30499-00
VAD-M10x1	3/8"	0050000009

Accessories

Adapters



Type	Length [mm]	Connection	Article number
PS-110-¾	110	G¾B	ER30470-00
PS-130-1	130	G1B	ER30471-00
PS-190-1	190	G1B	ER30472-00
PS-150-5/4	150	G1 ¼B	ER30473-00
PS-260-5/4	260	G1 ¼B	ER30474-00
PS-200-2	200	G2B	ER30475-00
PS-300-2	300	G2B	ER30476-00

Temperature pockets, for installation of universal temperature sensors

- with 6 mm sheath diameter (incl. gasket)
- Material: stainless steel



Type	Length [mm]	Connection	Temp.sensor Ø [mm]	Article number
bis qp 10,0 m³/h	85	1/2"	6,0	ER30480-00
qp 15,0 m³/h bis 100 m³/h	120	1/2"	6,0	ER30481-00
ab qp 150 m³/h	210	1/2"	6,0	ER30482-00

Welding sleeve

- with internal thread ½", for mounting a temperature pocket



Type	Length [mm]	Connection	Article number
SWM	70	1/2"	0520000012

Insulating shell



Type	Length [mm]	DN	Order unit	Article number
Insulating shell multi-jet heat/cooling meters: Universal insulation for mechanic meters	110 - 190 mm	DN 15/20	10	0030000071
Insulating shell multi-jet heat/cooling meters 3KH Set: 1 shell for mech. meter + 3 shells for ball valves 1"	110 - 190 mm	DN 15/20	5	0030000073



Insulating shell ultrasonic heat/cooling meters: Universal insulation for ultrasonic meters	110 - 190 mm	DN 15/20	10	0030000081
Insulating shell ultrasonic heat/cooling meters 3KH Set: 1 shell for ultrasonic meter + 3 shells for ball valves 1"	110 - 190 mm	DN 15/20	5	0030000082

Insulation ball valve 1": Shell for ball valve for heat/cooling meter till 1"		DN 15/20	10	0030000072
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Accessories

Threaded fitting with coupling ring (incl. gasket)



Type	Connection coupling ring	Connection external thread	Article number
compatible to qp 0,6 m ³ /h / 1,5 m ³ /h	G¾B	1/2"	ER30490-00
compatible to qp 2,5 m ³ /h	G1B	3/4"	ER30491-00
compatible to qp 3,5 m ³ /h/ 6 m ³ /h	G1 ½B	1"	ER30492-00
compatible to qp 10 m ³ /h	G2B	1 1/2"	ER30493-00

Ball valves with installation point (M10x1 socket)

for temperature sensors 5,0 mm and 5,2 mm



Type	Connection 2 x IG		Article number
KHS-0,6/1,5	3/4"		ER30495-00
KHS-2,5	1"		ER30496-00
KHS-3,5/6	1 1/4"		ER30505-00
KHS-6	1 1/2"	Hint: Please use temp.sensors with sufficient immersion depth (e.g. AGFW 38 mm)	0050400037
KHS-10	2"		0050400034

Ball valves with coupling ring (incl. gasket)



Type	Connection coupling ring	Connection internal thread	Article number
KH-0,6/1,5	G¾B	3/4"	0500000032
KH-2,5	G1B	1"	0500000033
KH-3,5/6	G1 ½B	1 1/4"	0500000034
KH-10	G2B	2"	0500000035

Ball valve AGFW with coupling ring

with AGFW temperature sensor connection M 10 x 1



KH-11	G2B	1 1/2"	0050400049
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Hint: Please use temp.sensors with sufficient immersion depth

Adapter for mounting temperature sensors in ball valves







for 5,0 and 5,2 mm temp. Sensors

Hint: this adapter only fits older installations



Type	Length [mm]	Connection external thread	Article number
TFA-M10x1, inkl. Dichtung	18	R 1/4"	0200000011

Accessories

Article number	further accessories	
050000072	Wireless M-Bus Bluetooth Receiver	
910000144	Wireless M-Bus USB Receiver	
050000063	Wireless M-Bus USB Stick with antenna	
1100703300	Pulse Converter for integration of external pulse devices into the Engelmann radio system 2 pulse inputs, wM-Bus, prepared for power supply OMS 4 Mode 5	
910000001	Opto Coupler Opto coupler with USB interface incl. 1 optical head holder	
ER30468-00	Engelmann mounting wrench compatible for all multi-jet including Type A, EAS overflow cap	
050000057	Accessory kit: wall-mounting support with adhesive pad, 50-pieces package	Only for SensoStar 2 compact meters with detachable calculator
050000074	Accessory kit: wall-mounting support with adhesive pad, 50-pieces package	Only for SensoStar compact meters with detachable calculator
Article number	Software	
910000301	Software Device'Monitor - parameterisation and read-out of data of Engelmann devices	
910000273	Wireless M-Bus Read-out Software - read-out of Engelmann radio devices	

Engelmann heat cost allocator HCAe2

- Approved to German HKVO; according to DIN EN 834:2017-02
- Optical interface
- Storage of 132 monthly and half-monthly values
- Clip-on remote temperature sensor
- 1-sensor mode (programmable)



Optional with wireless M-Bus

- Wireless M-Bus interface EN13757-4
- AMR (according to OMS) or Walk-by Read-out

Type	IR-interface	Device type	Option	Variation	Article number
HCAe2	yes	2-sensor device	-	without heat conductor	5100000000
HCAe2 OMS 4 Mode 5	yes	2-sensor device	Radio	without heat conductor	5100000001
HCAe2 OMS 4 Mode 7*	yes	2-sensor device	Radio	without heat conductor	5100000500

*Attention: Only short telegram possible

- **Order unit 40 pcs. per article**

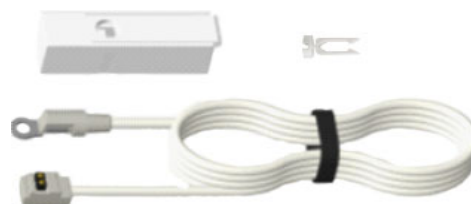
Heat conductor



Accessories	Article number
Heat conductor HCAe2	0051200030

- **Order unit 40 pcs.**

Remote sensor

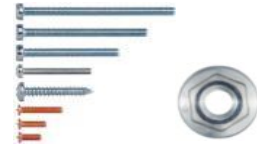


Type	Article number
Remote sensor complete 2,0 m	0251200006
Remote sensor complete 5,0 m	0251200011

- **Order unit 10 pcs. per article**

Mounting accessories

Standard parts



Type	Article number	Order unit
Threaded screw M4x55 DIN 84	0051200008	1000
Threaded screw M4x45 DIN 84	0051200007	1000
Threaded screw M4x35 DIN 84	0051200006	1000
Flat head tapping screw M3x25 DIN7985	0051200017	1000
Sheet-metal lens head screw 4,2x25	0051200013	1000
Welded stud M3x10 DIN 32501	0051200014	1000
Welded stud M3x12 DIN 32501	0051200015	1000
Welded stud M3x15 DIN 32501	0051200016	1000
Locking nut M3	0051200033	1000

Plate radiators and special radiators



Welded stud M3x10 DIN 32501	0051200014	1000
Welded stud M3x12 DIN 32501	0051200015	1000
Welded stud M3x15 DIN 32501	0051200016	1000
Shank nut M3x8,5	0051200002	1000
Locking nut M3	0051200033	1000

Sectional radiators



Spread angle M4 53/65	0051200031	100
Spread angle M4 33/48	0051200004	100
Spread angle M4 23/35	0051200027	100

Tube radiators



Slide nut tube (36 mm)	0051200009	100
Slide nut tube (45 mm)	0051200010	100

Accordion radiators



Spread angle bracket complete	0251200003	100
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Aluminium radiator



Type	Article number	Order unit
Mounting kit aluminum radiator	0251200004	100
Sheet-metal lens head screw 4,2x25	0051200013	1000

Convectors



Convector clip complete	0051200011	10
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Heat conductor adapter HCAe2 wide

For special types of radiators with special designs or large limbs intervals, this adapter is required additionally.

Installation behind the standard heat conductor
Dimensions in mm: 90,7 X 60 X 4 (HxBxT)



Heat conductor adapter HCAe2 wide	0051200035	1
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Mounting gauge



Mounting gauge	0151200000	1
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Optical head holder



Optical head holder	0051200044	1
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Seal

1 Pack contains 40 seals



Safety seal HCAe2	0500000061	1 Pack
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Optical extension HCAe2

Two optical extensions to cover incurred color damages after conversion of tubes or changes of HCA of other manufactures

1 Pack contains 10 little bags with 2 pcs. each (=20 pcs.)



Optical extension HCAe2 (length: 30 mm)	0500000062	1 Pack
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Radio-integrated water meter **WaterStar M** with single-jet flow sensor

- Single-jet water meter with inductive impeller scanning
- Cold or warm water
- 360° rotatable display, brass body, 2-point sapphire bearings
- Horizontal and vertical installation
- Surface-mounted installation
- OMS conform (OMS 4 Mode 5)
- Mode T1 and C1 selectable
- 15 monthly values submittable by wireless M-Bus (15 monthly and 15 semimonthly values readable via optical interface)
- Housing diameter 64,5 mm



Type	Nominal size Q3	Length [mm]	DN	Thread connection	Pipe diameter	Article number
Cold water till 30° C						
WaterStar M	2,5	80 mm	15	3/4"	1/2"	1101600001
WaterStar M	2,5	110 mm	15	3/4"	1/2"	1101600002
WaterStar M	2,5	130 mm	15	3/4"	1/2"	1101600003
WaterStar M	2,5	130 mm	20	1"	3/4"	1101600004
WaterStar M	4,0	130 mm	20	1"	3/4"	1101600005
Warm water till 90° C						
WaterStar M	2,5	80 mm	15	3/4"	1/2"	1101600006
WaterStar M	2,5	110 mm	15	3/4"	1/2"	1101600007
WaterStar M	2,5	130 mm	15	3/4"	1/2"	1101600008
WaterStar M	2,5	130 mm	20	1"	3/4"	1101600009
WaterStar M	4,0	130 mm	20	1"	3/4"	1101600010

Hint: there are at maximum 10 single-packed water meters in a package

Radio-integrated water meter **WaterStar M** with multi-jet flow sensor

- Multi-jet water meter with inductive impeller scanning
- Cold or warm water
- 360° rotatable display, brass body, 2-point sapphire bearings
- Horizontal and vertical installation
- Flush-mounted installation
- OMS conform (OMS 4 Mode 5)
- Mode T1 and C1 selectable
- 15 monthly values submittable by wireless M-Bus (15 monthly and 15 semimonthly values readable via optical interface)



Type	Nominal size Q3	MID designation	Specification	Housing diameter	Article number
Cold water till 30° C					
WaterStar M	2,5	TE 1	Techem Vario S	64,5 mm	1101600102
WaterStar M	2,5	IST	Ista 2"	64,5 mm	1101600103
WaterStar M	2,5	MET	Brunata HT3	64,5 mm	1101600104
WaterStar M	2,5	MOC / MOE	Elster Modulmeter MOC/MOE	64,5 mm	1101600106
WaterStar M	2,5	MUK	Sensus / PolluMUK	64,5 mm	1101600107
Warm water till 90° C					
WaterStar M	2,5	TE 1	Techem Vario S	64,5 mm	1101600152
WaterStar M	2,5	IST	Ista 2"	64,5 mm	1101600153
WaterStar M	2,5	MET	Brunata HT3	64,5 mm	1101600154
WaterStar M	2,5	MOC / MOE	Elster Modulmeter MOC/MOE	64,5 mm	1101600156
WaterStar M	2,5	MUK	Sensus / PolluMUK	64,5 mm	1101600157

for radio-integrated water meter WaterStar M with multi-jet flow sensor

Type	Nominal size Q3	MID designation	Specification	Housing diameter	Article number
Cold water till 30° C					
WaterStar M	2,5	A34 (UP6000)	for Allmess/Itron	64,5 mm	1101600051
WaterStar M	2,5	DM1 (M60x2)	for Deltamess	64,5 mm	1101600052
WaterStar M	2,5	MB3 (M76x1,5)	for Minol	64,5 mm	1101600053
WaterStar M	2,5	HT2	for Brunata	64,5 mm	1101600054
WaterStar M	2,5	MB1 / MB2	for Minol	64,5 mm	1101600055
WaterStar M	2,5	WE1	for Wehrle	64,5 mm	1101600056
WaterStar M	2,5	WGU	for Wassergeräte	64,5 mm	1101600057
Warm water till 90° C					
WaterStar M	2,5	A34 (UP6000)	for Allmess/Itron	64,5 mm	1101600061
WaterStar M	2,5	DM1 (M60x2)	for Deltamess	64,5 mm	1101600062
WaterStar M	2,5	MB3 (M76x1,5)	for Minol	64,5 mm	1101600063
WaterStar M	2,5	HT2	for Brunata	64,5 mm	1101600064
WaterStar M	2,5	MB1 / MB2	for Minol	64,5 mm	1101600065
WaterStar M	2,5	WE1	for Wehrle	64,5 mm	1101600066
WaterStar M	2,5	WGU	for Wassergeräte	64,5 mm	1101600067

Hint: there are at maximum 10 single-packed water meters in a package

Accessories for water meter **WaterStar M**

Connections for water meters

- consists of: 1x nipple, 1x nut, 1x seal



Type	Specification	Int.thread (nut)	Ext.thread (nipple)	Gasket	Article number
Water meter connection	raw brass	¾"	½"	vulcanised fiber gasket	0051700005
Water meter connection	raw brass	1"	¾"	vulcanised fiber gasket	0051700006

Valve meter (VZ) connectors chromium-plated

- for single-jet + mult-jet valve meter fittings
- till 3/4" consists of: 1x connector, 1x inlet pipe, 1x vulcanised fiber gasket
- larger than 3/4": the thread must be sealed by the customer with hemp or Loctite®
- not applicable to angle seat valves



Type	Specification	Ext.thread	Installation depth	Article number
VZ connectors	chromed	½"	25 mm	0051700008
VZ connectors	chromed	½"	40 mm	0051700009
VZ connectors	chromed	½"	60 mm	0051700010
VZ connectors	chromed	½"	80 mm	0051700011
VZ connectors	chromed	½"	100 mm	0051700012
VZ connectors	chromed	¾"	40 mm	0051700013
VZ connectors	chromed	¾"	60 mm	0051700014
VZ connectors	chromed	¾"	80 mm	0051700015
VZ connectors	chromed	¾"	100 mm	0051700016
VZ connectors	chromed	1"	40 mm	0051700017
VZ connectors	chromed	1"	60 mm	0051700018
VZ connectors	chromed	1"	80 mm	0051700019
VZ connectors	chromed	1"	100 mm	0051700020

Spare parts	Article number
Valve meter cap (VZ hand wheel) 28,5 mm chromed	0051700021
Valve meter shut-off valve 1/2"	0051700022

Accessories for measuring cartridges



Type	Specification	Article number
Extension, complete with O-Ring , length 40 mm	for coaxial meters 2"	0051700001
Extension, complete with O-Ring , length 20 mm	for coaxial meters 2"	0051700002



Flow direction inverter incl. moulded seal and O-Ring	for coaxial meters 2"	0051700003
Moulded seal UPMG 2" (46 x 56,5 x 3,9 mm)	for coaxial meters 2"	0051700004
Conversion kit, MB2 to MB1	for Minol	0051700007

Zubehör für Wasserzähler **WaterStar M**

Valve meter fitting for single-jet water meters

- for Q3 = 2,5
- incl. pressure piece, O-Ring, nut, 2 gaskets



Type	Specification	Thread	Article number
Valve meter fitting for single-jet, length 80 mm	chromed	½"	0051700023

Valve meter fitting for multi-jet water meter coax 2"

- for flush-mounted shut-off valves with interchangeable measuring cartridge
- especially suitable for installation on dwelling shut-off valves
- the shut-off valve is integrated in the fitting
- incl. pressure piece, O-Ring, nut, 2 gaskets



Valve meter fitting for coax 2"	chromed		0051700024
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- 2 Halves being clicked together



Valve meter flap rose	chromed	65x32x6,5	0051700026
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Bathtub meter fitting

- for Q3 = 2,5



Bathtub meter fitting for single-jet, length 80 mm, incl. gaskets	chromed	½"	0051700025
Adapter for bathtub meter fitting, incl. vulcanised fiber gasket for int.thread	chromed		0051700027

Rosette (squared) for flush-mounted box



Rosette 137 X 137 Ø 65 mm	chromed		0051700028
Dummy cap for rosette for all multi-jets	chromed		0051700029
Flush-mounted box adapter rings (distance rings)			0051700030

Rosette (one-piece) for multi-jets

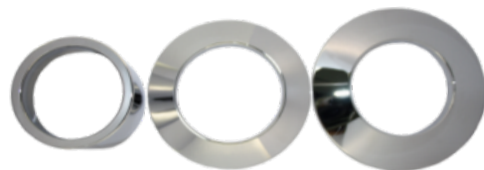
- for housing diameter 64,5 mm
- plastic shaft, can be sawn off if required



Rosette Ø 125 mm for multi-jet, shaft length = 50 mm	chromed		0051700031
Rosette Ø 125 mm for multi-jet, shaft length = 100 mm	chromed		0051700032
Dummy cap for rosette - also fits the two-piece and three-piece rosette	chromed		0051700036

Rosette (two-piece) for ISTA 2"

- for housing diameter 64,5 mm



Cuff for ISTA 2", shaft length = 63 mm	chromed		0051700033
Rosette for ISTA 2", Ø 125 mm, for cuff	chromed		0051700034
Rosette for ISTA 2", Ø 140 mm, for cuff	chromed		0051700035

Rosette (three pieces) for multi-jets

- for housing diameter 64,5 mm
- Length 60 mm



Cuff with rosette round (140 mm outer diameter) and distance piece	0051700037
Cuff with rosette squared (137 mm edge length) and distance piece	0051700038

Distance piece for existing rosette



Distance piece for coax 2" (IØ ca. 64,50 mm, AØ ca. 87,50 mm)	0051700039
Distance piece for coax 2" (IØ ca. 64,50 mm, AØ ca. 70 mm)	0051700040
Distance piece for Brunata HT3 (IØ ca. 64,50 mm, AØ ca. 66,2 mm)	0051700041

Tap meter set

- incl. vulcanised fiber gaskets



Tap meter - connecting coupling 3/4" with sealing preparation	0051700042
Tap meter - coupling nut and hose connector	0051700043
Tap meter - cap blue	0051700044
Tap meter - cap red	0051700045

Connections for washbasin meters



Washbasin meter - upper part incl. vulcanised fiber gasket	0051700046
Washbasin meter - lower part incl. vulcanised fiber gasket	0051700047



Alternative for the lower part

Washbasin meter - lower part: Flexible metal hose 300 mm incl. vulcanised fiber gasket	0051700048
Washbasin meter - lower part: Flexible metal hose 450 mm incl. vulcanised fiber gasket	0051700049

Mounting key for measuring capsules



Mounting key for multi-jet meters (with space for pulse output)	0051700050
Mounting key for Allmess adapter	0051700051

Flush-mounted housing for measuring capsules

- with brass housing and brass dummy cap
- with O-Ring and plastic mounting aid



Type	Length [mm]	Thread	Article number
For measuring capsules coax 2"			
Flush-mounted special housing for flush-mounted box (coax 2")	80	3/4" AG	0051700052
Flush-mounted housing, only internal thread	110	1/2" IG	0051700053
Flush-mounted housing, only internal thread	110	3/4" IG	0051700054
Flush-mounted housing, combined: thread + solder connection (15 mm)	110	1/2" AG	0051700055
Flush-mounted housing, combined: thread + solder connection (18 mm)	110	3/4" AG	0051700056
Flush-mounted housing, only solder connection (22 mm)	110		0051700057
Further flush-mounted housings			
UP 3 - housing for HT3 (incl. dummy cap, O-Ring, mounting aid)	110	1/2" IG	0051700058
UP 3 - housing for HT3 (incl. dummy cap, O-Ring, mounting aid)	110	3/4" IG	0051700059
UP 3003 - housing for HT3 (replacement Allmess 3003) (incl. dummy cap + O-Rings) for flush-mounted box			0051700060

for Wehrle Modularis water meters



- Can be switched to OMS 4 Mode 7

Type	Article number
FAW	110080001

- Order unit 10 pcs.

Smoke Detector C2 AMS

- Integrated Wireless M-Bus 868 MHz
- C2 Mode
- OMS 4 Mode 5
- AES 128 Bit encrypted
- Screw mounting with 1 / 2 screws
- Environment detection
- Smoke inlet alarm
- Lifetime: 10 + 1 years



Type		Order unit	Article number
Smoke Detector C2 AMS	Masterkey	20 pieces per package	9101800012

- Order unit 20 pcs (1 package)

Accessories for Smoke Detector C2 AMS

Type		Order unit	Article number
Software for Smoke Detector C2 AMS	Software pack, manual, licence		0051800001
Optical head USB for Smoke Detector C2 AMS			0051800002

Gateway and Software

- Data transfer via GPRS
- Field communication via wireless M-Bus according to OMS Version 3.0.1 or 4.0.2
- Compatible with all Engelmann radio products and devices based on OMS specifications



Gateway		Availability	Article number
Gateway GPRS	Gateway with 2 batteries		0021300001
Gateway GPRS Essential	Gateway with 1 battery		0021300006
Gateway GPRS Power	Gateway with power supply		0021300010
Gateway ETHERNET	Gateway with Ethernet connection	open	0021300003
Gateway ETHERNET Power	Gateway with Ethernet connection + power supply	open	0021300011
Repeater	Single-Hop / Multi-Hop / T1, S1, C1		0500000073
Accessories			
			Article number
External antenna, GSM	incl. Connection set (mounting pieces + "pig-tail")		0021300030
External antenna, wireless M-Bus	incl. Connection set (mounting pieces + "pig-tail")		0021300031
Power Supply Gateway	Power supply 230 V for Gateway		0021300040
Spare parts			
			Article number
Battery Gateway	1 Battery		0021300060
Battery Repeater	1 Battery		0020400008
Software			
			Article number
AMR Software			0021300015
Device Monitor			9100000301
Trainings			
			Article number
Schulung Basic	1 day in-house training at Engelmann: Basics for AMR System (price per person)		9100000310
Schulung Advanced	On-site at customer's place, incl. support of implementation at property (price per day plus travel expenses/allowances)		9100000312

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