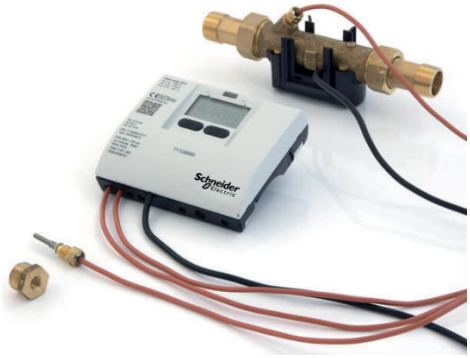
K Series Ultrasonic
Heat-Cool Metering

KD Series



KE Series

Product Description

The K Series Ultrasonic Heat-Cool Metering Series is designed to operate effectively with many Schneider Electric Buildings BMS systems using communication with LON, M-Bus, Modbus, BACnet or as pulse output.

The K Series meters are designated as KD (deluxe) and KE (economy) models. KD meters offer a feature-rich solution for heat, cool and flow metering. KE models offer fewer features at a lower price point.

Heat metering is an essential way to monitor and save energy and offers a reliable way to determine heat energy consumed in offices and buildings. Versions for hot and chilled water are available.

In many cases, it is not adequate to simply monitor energy supplied by utility companies using primary meters. Secondary metering offers valuable information that can be used to manage consumption, target potential energy savings and assign accurate costs to individual energy users.

These flow meters use the ultrasonic method to provide accuracy. Patented technology and no moving parts means that these devices have low maintenance requirements.

Available Products

	Category	Meter Type	Pipe Reference	Flow Direction
K	☐	☐	☐	F
	D = Deluxe E = Economy	K = Heat & Cool** F = Flow	See Pipe Reference Table for details. 00, 05, 10, 15, 20, 25, 30, 35, 40*, 45*, 50*, 55*, 60*, 65*	F = Inflow***

Example:

K	D	F	55	F

* Deluxe products only. **Requires **KAOPTC** when display of cool or heat only is required. ***Can be changed to return via keypad.
Note: Meters sold without communication modules. See the Options and Accessories table on page 2 for options.
Shipped with a 24VAC power supply, temperature sensor set (1.5 meter cable) and temperature sensor pocket well set. See Options and Accessories table if a 230VAC power supply is needed.

Pipe Reference Table

Pipe	KD Compatible	KE Compatible	qp nom. (m³/h)	qi min. (m³/h)	qs max. (m³/h)	Connection Size	Connection Type	Length (mm)	Meter Factor (pulses/liter)	Material (pipe connection)
00	Y	Y	1.5	0.015	3.0	G¾B (R½)	Threaded	110	100	Brass
05	Y	Y	2.5	0.025	5.0	G1B (R¾)	Threaded	190	60	Brass
10	Y	Y	3.5	0.035	7.0	G5/4B (R1)	Threaded	260	50	Brass
15	Y	Y	6	0.06	12	G5/4B (R1)	Threaded	260	25	Brass
20	Y	Y	6	0.06	12	DN25	Flange	260	25	Stainless steel
25	Y	Y	10	0.1	20	G2B (R1½)	Threaded	300	15	Brass
30	Y	Y	10	0.1	20	DN40	Flange	300	15	Stainless steel
35	Y	Y	15	0.15	30	DN50	Flange	270	10	Stainless steel
40	Y	N	25	0.25	50	DN65	Flange	300	6	Stainless steel

North America (USA): +1 888 444 1311
Europe, Mid-East & Africa (Sweden): +46 10 478 2000
Asia Pacific (Singapore): +65 6484 7877
product.support@schneider-electric.com
www.schneider-electric.com

Life Is On Schneider Electric

July 2023
F-28210-4 nk

Pipe Reference Table (cont.)

Pipe	KD Compatible	KE Compatible	qp nom. (m^3/h)	qi min. (m^3/h)	qs max. (m^3/h)	Connection Size	Connection Type	Length (mm)	Meter Factor (pulses/liter)	Material (pipe connection)
45	Y	N	40	0.4	80	DN80	Flange	300	5	Stainless steel
50	Y	N	60	0.6	120	DN100	Flange	360	2.5	Stainless steel
55	Y	N	100	1.0	200	DN100	Flange	360	1.5	Stainless steel
60	Y	N	150	1.5	300	DN150	Flange	500	1.0	Stainless steel
65	Y	N	250	2.5	500	DN150	Flange	500	0.6	Stainless steel

Options and Accessories

Model	Option	Description	KD Compatible	KE Compatible
KA420A	X	Analog Output Module, Dual 4-20 mA	Y	Y
KABACN	X	BACnet MS/TP (RS-485) Output Module	Y	Y
KADLON	X	LON Output Module for Deluxe (D) Display	Y	N
KAMBUS	X	Wired M-Bus Output Module	Y	Y
KAMODT	X	Modbus TCP (IP) Output Module	Y	N
KAMODR	X	Modbus RTU (RS-485) Output Module	Y	Y
KAD230V		230 VAC Input Power Supply for Deluxe (D) Display	Y	N
KAD24V		24 VAC Input Power Supply for Deluxe (D) Display	Y	N
KAE230V		230 VAC Input Power Supply for Economy (E) Display	Y*	Y
KAE24V		24 VAC Input Power Supply for Economy (E) Display	Y*	Y
KABATD		D-Cell Battery With Cable and Connector	Y**	Y**
KASENA		Temperature Sensor Set, 1.5 m Cable for heat-cooling	Y	Y
KASENB		Temperature Sensor Set, 3.0 m Cable for heat-cooling	Y	Y
KASENC		Temperature Sensor Set, 5.0 m Cable for heat-cooling	Y	N
KASEND		Temperature Sensor Set, 10.0 m Cable for heat-cooling	Y	N
KAPO65		Temperature Sensor Pocket Well, R1/2 x 65 mm Long x 5.8 mm Diameter, S-Steel, Pair	Y	Y
KAPO90		Temperature Sensor Pocket Well, R1/2 x 90 mm Long x 5.8 mm Diameter, S-Steel, Pair	Y	Y
KADBRK		Mounting Bracket for Deluxe (D) Display	Y	N
KAEBRK		Wall Mounting Bracket for Economy (E) Display	N	Y
KADCB05		Signal cable, extension, 5 meters, for Deluxe (D) Display	Y	N
KADCB10		Signal cable, extension, 10 meters, for Deluxe (D) Display	Y	N
KADBOX		Signal cable extender (joiner) box, for Deluxe (D) Display	Y	N
KAOPTC		IR Optical to USB Data Cable	Y	Y
KA602KIT		Kit to connect legacy Cooling (MC) and Heat/Cool (MK) meters to a new generation calculator	Y	N
KADKCAL		Replacement calculator for Deluxe (KDKxxx) and legacy (MK with KA602KIT) Heat/Cool meters	Y	N
KADFCAL		Replacement calculator for Deluxe (KDFxxx) Flow meters	Y	N
KADCCAL		Replacement calculator for Deluxe (KDCxxx) and legacy (MC with KA602KIT) Cooling meters	Y	N
KADHCAL		Replacement calculator for Deluxe (KDHxxx) and legacy (MH) Heating meters	Y	N

* Can be used with one communication module only.
** Can be used with one Mbus communication module or without communication module only.

North America (USA): +1 888 444 1311
Europe, Mid-East & Africa (Sweden): +46 10 478 2000
Asia Pacific (Singapore): +65 6484 7877
product.support@schneider-electric.com
www.schneider-electric.com

Life Is On Schneider Electric

July 2023
F-28210-4 nk

Specifications

Operating Environment	
Ambient temperature range	5 to 55 °C (41 to 131 °F)
Fluid temperature	2 to 130 °C (37 to 266 °F)
Accuracy	KD: Flow 1%, Temperature 4% KE: Flow 2%, Temperature 4%
Accuracy class	Class 2 (EN1434), typical accuracy tolerance <2% when flow is between qp/10 and qs
Power supply	24 Vac (or 230 Vac option)
Flow range	KD: 1.5 to 250 m^3/h KE: 1.5 to 15 m^3/h
Temperature sensor	2-wire
Measuring units	KD: mWh, kWh, GJ or Gcal KE: mWh, kWh or GJ
Module slots (select communication option)	KD: 2 slots, KE: 1 slot
Flow sensor cable length	KD: 2.5m*, KE: 1.5m
Battery**	D-cell***
Battery lifetime	Up to 16 years
Materials	
Housing, threaded	DZR brass (dezincification resistant brass), CW602N
Housing, flanged	Stainless steel, W. no. 1.4308
Transducer (membrane)	Stainless steel, W. no. 1.4404
O-ring	Ethylene Propylene (EPDM)
Reflector base/reflector	Thermoplastic, 30 % glass fiber reinforced Polyethersulfone (PESU 30% GF) and stainless steel (qp 6.0 and 10 m^3/h)/ stainless steel (qp 3.5, 15…100 m^3/h)
Measuring tube	Thermoplastic, 30% glass fiber reinforced Polyethersulfone (PESU 30% GF)
Regulatory Information	
Protection class	KD: Calculator IP65, Flow sensor IP65 KE: Calculator IP54, Flow sensor IP68
Heat meter approval	MID, EN1434
Cool meter approval	BEK-1178, EN1434
Warranty	
Limited warranty	2 years

* Cable extension accessory available to extend up to 10 m.
** Accessory, sold separately.
*** Communication limitations apply. See Options and Accessories table.

Note: Meter is not suitable to measure water with glycol concentrations.

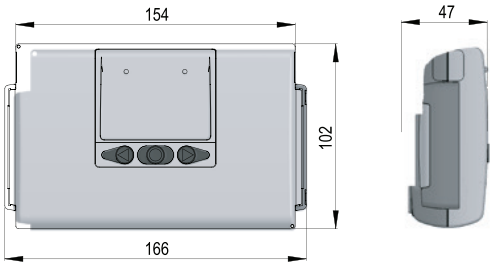
North America (USA): +1 888 444 1311
Europe, Mid-East & Africa (Sweden): +46 10 478 2000
Asia Pacific (Singapore): +65 6484 7877
product.support@schneider-electric.com
www.schneider-electric.com

Life Is On Schneider Electric

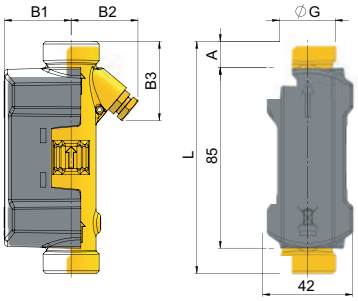
July 2023
F-28210-4 nk

KD Series Dimensions

D Series Calculator (mm)

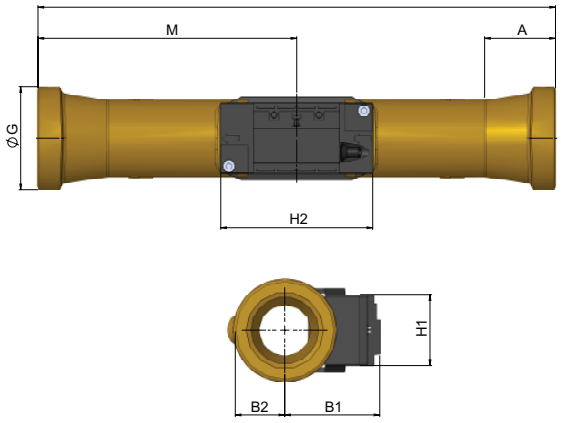


KDK/KDF Series Flow Sensors



Pipe Ref.	Thread EN ISO 228-1	L	A	B1	B2	B3	Approx. Weight (kg)*
00	G¾B (q_p 1.5)	110	12	35	32	38	0.6
05	G1B (q_p 2.5)	190	52	38	38	78	0.9

* Including the electronics box and 2.5 m signal cable.



Pipe Ref.	Thread EN ISO 228-1	L	M	H2	A	B1	B2	H1	Approx. Weight (kg)*
10	G1¼B (q_p 3.5)	260	L/2	88	16	51	20	41	1.9
15	G1¼ (q_p 6.0)	260	L/2	88	16	53	20	41	2.0
25	G2B (q_p 10)	300	L/2	88	40.2	55	29	41	2.9

* Including the electronics box and 10 m signal cable.

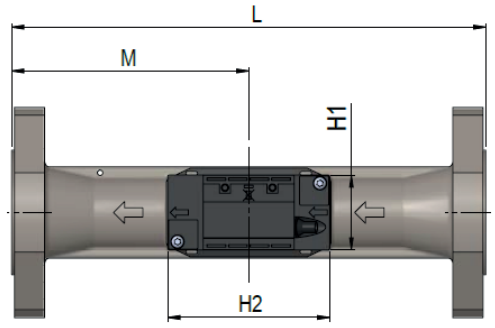
North America (USA): +1 888 444 1311
Europe, Mid-East & Africa (Sweden): +46 10 478 2000
Asia Pacific (Singapore): +65 6484 7877
product.support@schneider-electric.com
www.schneider-electric.com

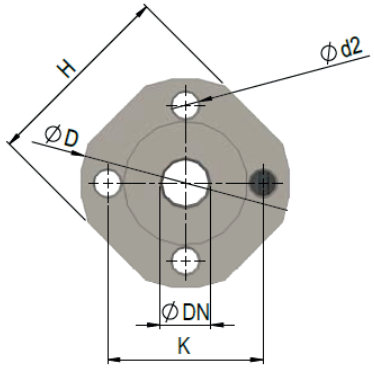
Life Is On Schneider Electric

July 2023
F-28210-4 nk

KD Series Dimensions (cont.)

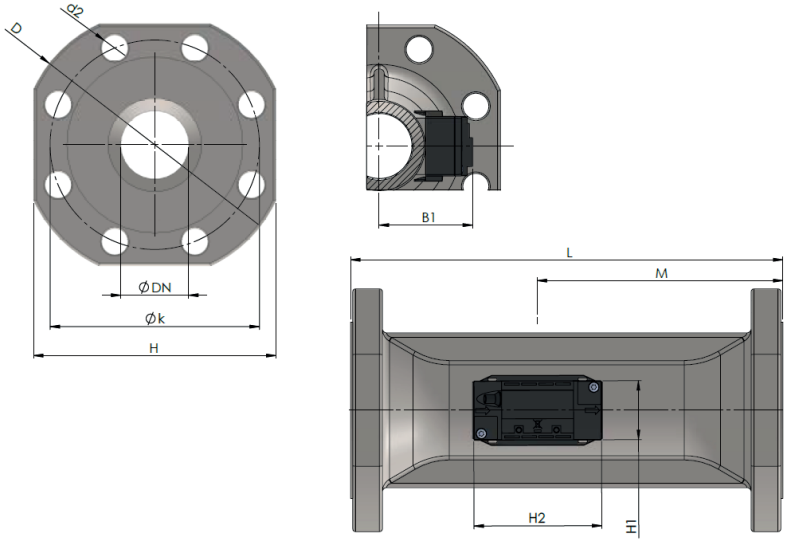
KDK/KDF Series Flow Sensors (cont.)





Pipe Ref.	Nom. Diameter	L	M	H2	D	H	k	H1	Bolts			Approx. Weight (kg)*
									Qty.	Thread	d_2	
20	DN25 (q_p 6.0)	260	L/2	88	115	106	85	41	4	M12	14	4.5
30	DN40 (q_p 10)	300	L/2	88	150	140	110	41	4	M16	18	7.4
35	DN50 (q_p 15)	270	155	88	165	145	125	41	4	M16	18	8.5

* Including the electronics box and 10 m signal cable.



Flange facing type B, raised face according to EN 1092-1, PN25

Pipe Ref.	Nom. Diameter	L	M	H1	H2	B1	D	H	k	Bolts			Approx. Weight (kg)*
										Qty.	Thread	d_2	
40	DN65 (q_p 25)	300	170	41	88	<H/2	185	168	145	8	M16	18	13.5
45	DN80 (q_p 40)	300	170	41	88	<H/2	200	184	160	8	M16	18	17.1
50/55	DN100 (q_p 60 and 100)	360	210	41	88	<H/2	235	220	190	8	M20	22	22.0

* Including the electronics box and 10 m signal cable.

North America (USA): +1 888 444 1311
Europe, Mid-East & Africa (Sweden): +46 10 478 2000
Asia Pacific (Singapore): +65 6484 7877
product.support@schneider-electric.com
www.schneider-electric.com

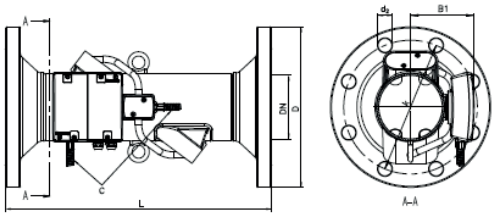
Life Is On Schneider Electric

July 2023
F-28210-4 nk

KD Series Dimensions (cont.)

KDK/KDF Series Flow Sensors (cont.)

Flow Sensor DN150 (mm)



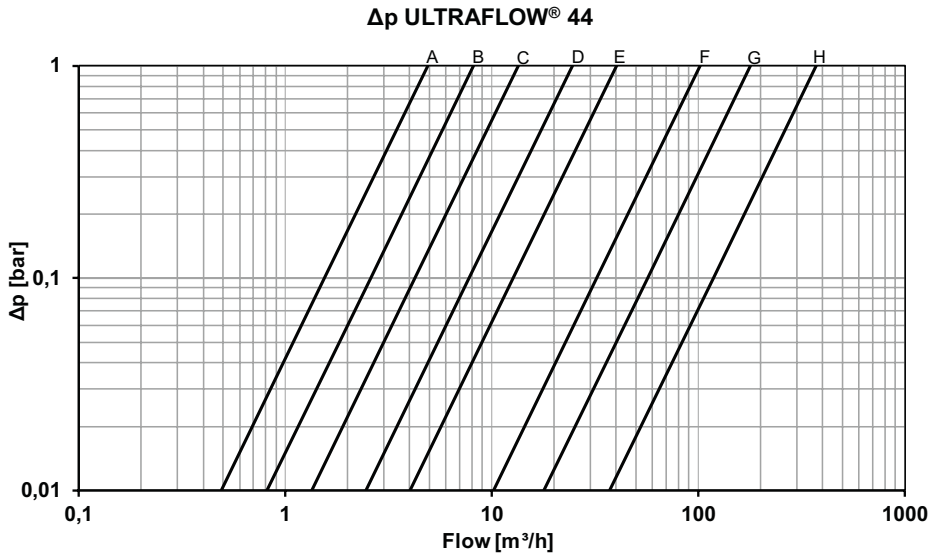
Flange EN 1092-1. Flange facing type B, raised face.

Pipe Ref.	Nom. Diameter	PN (bar)	Nom. Flow q_p (m^3/h)	L	D	k	B1	E	Steel Tube Length C	Bolts			Approx. Weight (kg)
										Qty.	Thread	d_2	
60/65	DN150	25	150 & 250	500	300	250	119	282	650	8	M24	26	37

Pressure Loss

Graph	Nom. Flow qp (m^3/h)	Nom. diameter (mm)	Δp@qp (bar)	kv *	q@0.25 bar [m^3/h]
A	15	DN15/DN20	0.09	4.9	2.4
B	2.5	DN20	0.09	8.2	4.1
C	3.5	DN25	0.07	13.4	6.8
D	6	DN25/DN32	0.06	24.5	12.3
E	10	DN40	0.06	40	20
E	15	DN50	0.14	40	20
F	25	DN65	0.06	102	51
G	40	DN80	0.05	179	90
H	60	DN100	0.03	373	187
H	100	DN100/DN125	0.07	373	187

* $q = k_v \times \sqrt{\Delta p}$

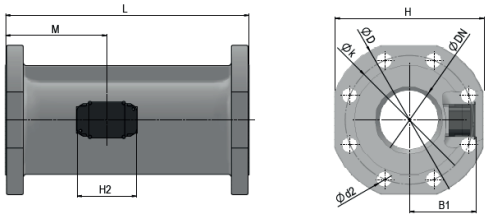


North America (USA): +1 888 444 1311
Europe, Mid-East & Africa (Sweden): +46 10 478 2000
Asia Pacific (Singapore): +65 6484 7877
product.support@schneider-electric.com
www.schneider-electric.com

Life Is On Schneider Electric

July 2023
F-28210-4 nk

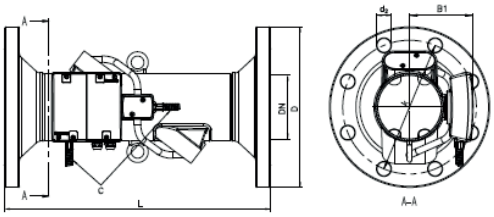
Flow Sensor DN65 to DN100 (mm)



Flange facing type B, raised face according to EN 1092-1, PN25

Pipe Ref.	Nom. Diameter	L	M	H2	B1	D	H	k	Bolts			Approx. Weight (kg)
									Qty.	Thread	d_2	
40	DN65	300	170	89	<H/2	185	168	145	8	M16	18	13.2
45	DN80	300	170	89	<H/2	200	184	160	8	M16	18	16.8
50/55	DN100	360	210	89	<H/2	235	220	190	8	M20	22	21.7

Flow Sensor DN150 (mm)



Flange EN 1092-1. Flange facing type B, raised face.

Pipe Ref.	Nom. Diameter	PN (bar)	Nom. Flow q_p (m^3/h)	L	D	k	B1	E	Steel Tube Length C	Bolts			Approx. Weight (kg)
										Qty.	Thread	d_2	
60/65	DN150	25	150 & 250	500	300	250	119	282	650	8	M24	26	37

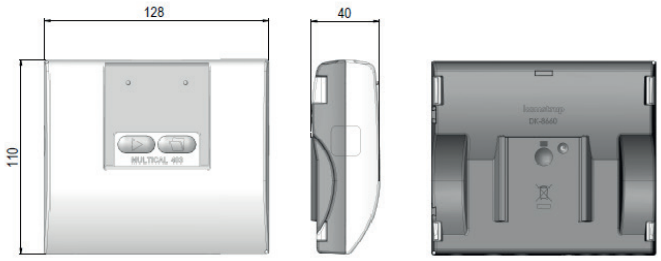
North America (USA): +1 888 444 1311
Europe, Mid-East & Africa (Sweden): +46 10 478 2000
Asia Pacific (Singapore): +65 6484 7877
product.support@schneider-electric.com
www.schneider-electric.com

Life Is On Schneider Electric

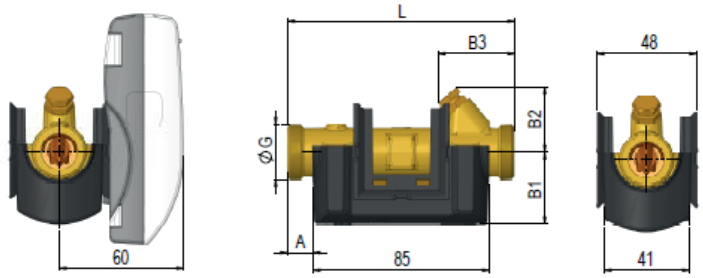
July 2023
F-28210-4 nk

KE Series Dimensions

E Series Calculator (mm)

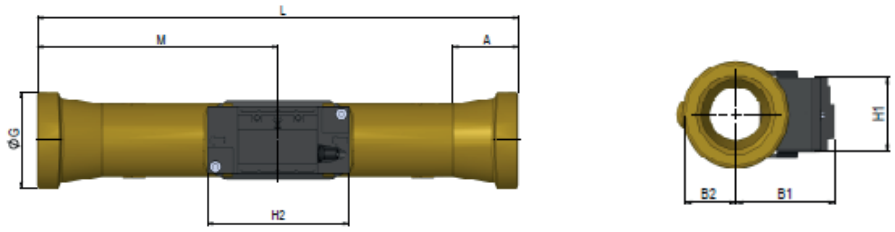


Flow Sensor with G3/4 and G1 Thread Connection (mm)



Pipe Ref.	Thread G	L	A	B1	B2	B3	Approx. Weight (kg)*
00	G3/4B	110	12	35	32	38	0.9
05	G1B	190	22	38	38	78	1.2

Flow Sensor G2/G5/4 Threaded Connection (mm)



Pipe Ref.	Thread G	L	M	H2	A	B1	B2	H1	Approx. Weight (kg)*
10	G5/4B	260	130	88	16	51	20	41	2.0
15	G5/4B	260	130	88	16	53	20	41	2.1
25	G2B	300	150	88	40.2	55	29	41	3.0

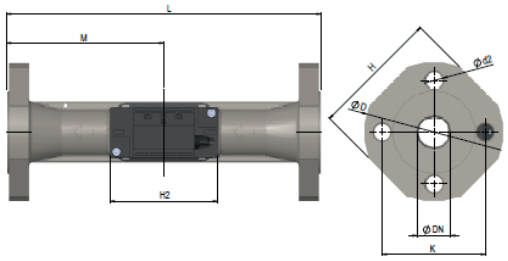
* Weight of calculator, flow sensor, 3 m sensor pair, excluding packaging.

North America (USA): +1 888 444 1311
Europe, Mid-East & Africa (Sweden): +46 10 478 2000
Asia Pacific (Singapore): +65 6484 7877
product.support@schneider-electric.com
www.schneider-electric.com

Life Is On Schneider Electric

KE Series Dimensions, cont.

Flow Sensor with DN25, DN40 and DN50 Flange Connection (mm)

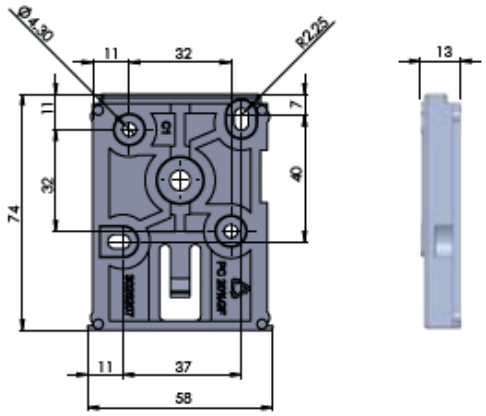


Pipe Ref.	Nom. Diameter DN	L	M	H2	D	H	K	Bolts			Approx. Weight (kg)*
								Qty.	Thread (mm)	d_2 (mm)	
20	DN25	260	130	88	115	108	85	4	M12	14	4.6
30	DN40	300	150	88	150	140	110	4	M16	18	7.5
35	DN50	270	155	88	165	145	125	4	M16	18	8.6

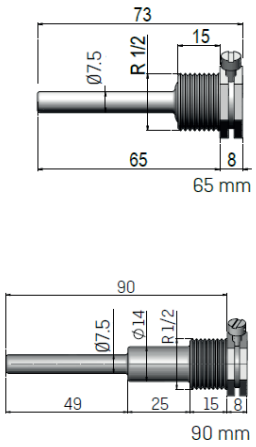
* Weight of calculator, flow sensor, 3 m sensor pair, excluding packaging.

Option & Accessory Dimensions

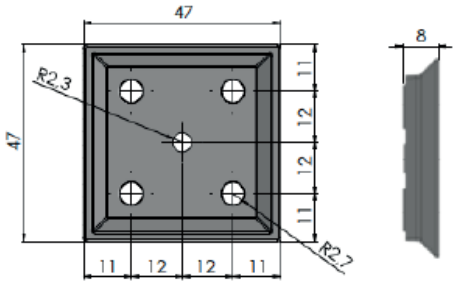
Mounting Bracket for D Series Deluxe Display (mm)



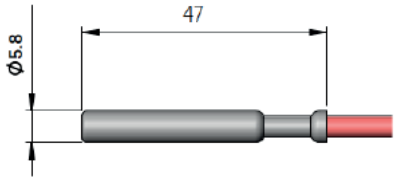
Temperature Pockets with Thread R1/2 (mm)



Mounting Bracket for E Series Economy Display (mm)



Temperature Sensor (mm)



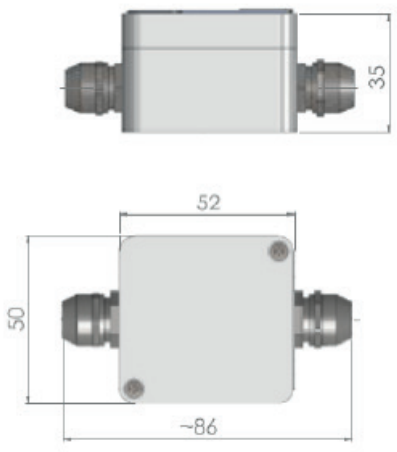
North America (USA): +1 888 444 1311
Europe, Mid-East & Africa (Sweden): +46 10 478 2000
Asia Pacific (Singapore): +65 6484 7877
product.support@schneider-electric.com
www.schneider-electric.com

Life Is On Schneider Electric

July 2023
F-28210-4 nk

Option & Accessory Dimensions (mm), cont.

Cable Extender Box for D Series Deluxe Display (mm)



Installation

General Information

Operating Conditions and Measuring Ranges	
Heat Meter with MID and EN1434 approval	Temperature range: θ: 2 °C…180 °C ΔΘ: 3 K…178 K Medium temperature: θq: 15 °C…130 °C
Cooling Meter with DK-BEK 1178 and EN143 approval	Temperature range: θ: 2 °C…180 °C ΔΘ: 3 K…178 K Medium temperature: θq: 2 °C…130 °C
MID Designation	
Mechanical environment	Class M1 and M2
Electromagnetic environment	Class E1 (housing/light industry) and Class E2 (industry). The meter's control cables must be drawn at min. 25 cm distance from other installations.
Climatic environment	Non-condensing, closed location (installation indoors), ambient temperature 5…55 °C.

Maintenance and Repair

Temperature sensor pairs, flow sensor and supply and communication modules are replaceable. Other repairs require subsequent reverification in an accredited laboratory.

Temperature Sensor Mounting

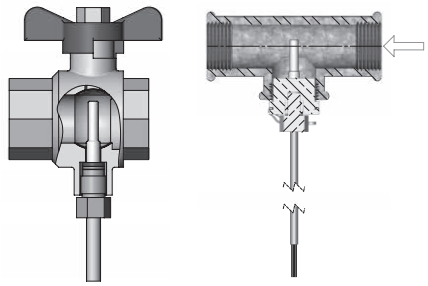
The temperature sensors, used for measuring inlet and outlet temperatures respectively, constitute a matched sensor pair, which must never be separated. Temperature sensors are usually mounted in the calculator from the factory. According to EN 1434/OIML R75 the cable length must not be changed. If a replacement is necessary, both sensors must be replaced.

The sensor marked with a red sign is to be installed in the inlet pipe. The other sensor, marked with a blue sign, is to be installed in the outlet pipe. For instructions on mounting the calculator, see the section Mounting the Display/Calculator on page 12.

Note: The sensor cables must not be exposed to jerking or pulling. Please be aware of this when binding the cables, and be careful not to pull the binders unnecessarily tight as this may damage the cables. Please also note that temperature sensors must be mounted from below in cooling and heat/cooling installations.

Short Direct Sensor (DS)

Fasten the sensors' brass unions lightly (approx. 4 Nm) using a 12 mm face wrench, and seal the sensors with seal and locking wire.



Pocket Wells

The sensor pockets can be mounted in a welding sleeve or in a 45° lateral Y-piece. The tip of the sensor pocket must be placed in the middle of the flow. Thermally conductive "non-hardening" paste can be used. Push the plastic sleeve on the sensor cable into the sensor pocket and secure the cable by means of the enclosed M4 sealing screw. Fasten the screw with your fingers only. Seal the pockets using seal and locking wire.

North America (USA): +1 888 444 1311
Europe, Mid-East & Africa (Sweden): +46 10 478 2000
Asia Pacific (Singapore): +65 6484 7877
product.support@schneider-electric.com
www.schneider-electric.com

Life Is On Schneider Electric

July 2023
F-28210-4 nk

Flow Sensor Mounting

Prior to flow sensor installation, the system should be flushed and protection plugs/plastic diaphragms removed from the flow sensor.

The correct position of the flow sensor can be found on the calculator's type label or on the display, where ⊃ indicates the position in inlet and ⊃ indicates the position in outlet.

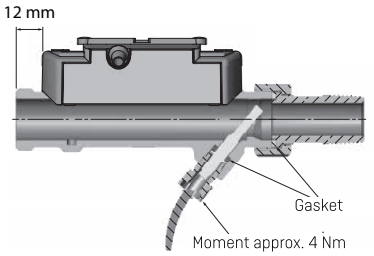
The flow direction is indicated by an arrow on the flow sensor.

Mounting of Couplings and Short Direct Sensor in Flow Sensor

The short direct sensor may be installed in PN16 installations only.

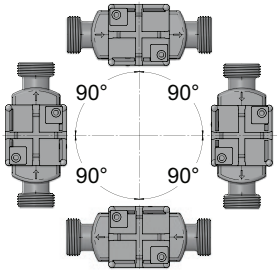
In connection with flow sensors with the nominal dimensions G¾Bx110 mm and G1Bx110 mm, confirm that the thread run-out is sufficient.

Couplings and gaskets are mounted as shown in the figure below.

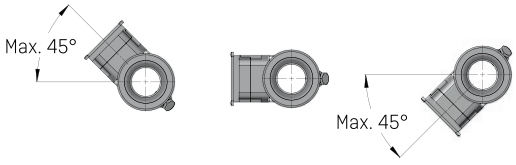


Sensor (Meter) Mounting

The flow sensor can be mounted horizontally, vertically or at an angle.



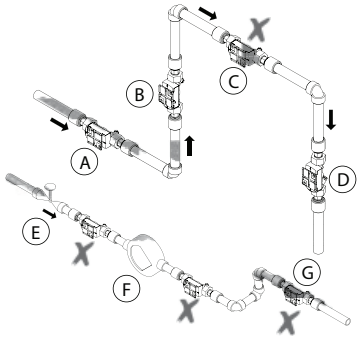
The flow sensor should be mounted with the plastic casing placed on the side (for horizontal mounting). The flow sensor may be turned up to ±45° in relation to the pipe axis if necessary.



Note: Flow sensors size q_p 0.6...2.5 m³/h must not be turned upwards.

Flow Sensor Position

Flow sensors require neither straight inlet nor straight outlet to meet the Measuring Instruments Directive (MID) 2014/32/EU, OIML R75:2002 and EN 1434:2015. A straight inlet section will only be necessary in the case of heavy flow disturbances before the meter. It is recommended to follow the CEN CR 13582 guidelines.



A	Recommended position
B	Recommended position
C	Unacceptable position due to risk of air build-up
D	Acceptable position in closed systems
E	Do not place immediately after a valve, with the exception of block valves (ball valve type) which must be fully open when not used for blocking
F	Do not place immediately before or after a pump
G	Do not place immediately after a double bend in two planes

In order to avoid cavitation, the back pressure at the flow sensor (the pressure at the flow sensor outlet) must be minimum 1.5 bar at q_p (nominal flow) and minimum 2.5 bar at q_s (maximum flow). This applies to temperatures up to approx. 80 °C. The flow sensor must not be exposed to pressure lower than the ambient pressure (vacuum).

North America (USA): +1 888 444 1311
Europe, Mid-East & Africa (Sweden): +46 10 478 2000
Asia Pacific (Singapore): +65 6484 7877
product.support@schneider-electric.com
www.schneider-electric.com

Life Is On Schneider Electric

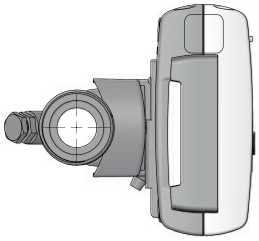
July 2023
F-28210-4 nk

Mounting the Display/Calculator

The display/calculator can be mounted in different ways; either directly on the display/calculator (compact mounting) or on a wall (wall mounting).

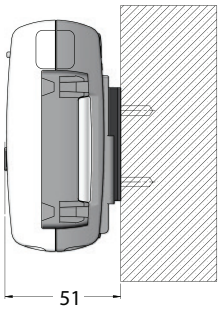
Compact Mounting

Slide the calculator onto the fitting of the plastic casing of the flow sensor. Once mounted, the calculator is sealed with seal and locking wire or sealing label. At the risk of condensation (e.g. in cooling applications), the calculator must be wall mounted. In addition, a condensation-proof flow sensor must be used in cooling applications.



Wall Mounting

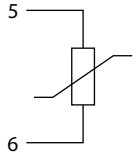
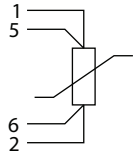
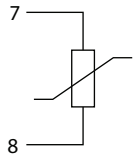
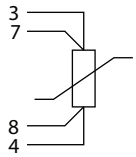
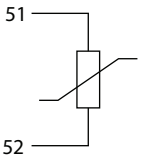
The display/calculator must be mounted on an even wall. Wall mounting requires a wall fitting which is available as an accessory. Use the wall fitting as a template to mark and drill two 6 mm holes in the wall. Then mount the wall fitting with the enclosed screws and rawlplugs. Slide the calculator onto the fitting in the same way as it is done by compact mounting.



Wiring

Temperature Sensor Connection

Temperature sensors are connected via the connection PCB using the terminal numbers in the table below.

Sensor	2-Wire Terminal Number	4-Wire Terminal Number
t1		
t2		
t3		

Flow Meter Connection

The flow meter is connected via the connection PCB using the terminal numbers in the table below.

	Wire	ULTRAFLOW
9+ 10 Sig 11-	Red Yellow Blue	V1
9+ 69 Sig 11-	Red Yellow Blue	V2

Mains Supply Connection

Supply modules are available for either 24 VAC or 230 VAC. The supply modules are protection class II and are connected via a two-wire cable (without earth) through the large cable bush at the bottom of the connection base. Use connecting cable with an outer diameter of 5-8 mm and ensure correct cable stripping as well as correct mounting of cable relief. If connecting to 230 VAC, it is important to make sure that the entire installation complies with current regulations. The supply cable for the meter must never be protected by a fuse larger than the one permitted. When in doubt, consult an authorized electrician for an assessment of the installation in question. Work on fixed installations and any intervention in the fuse box must be carried out by an authorized electrician only.

Note: For installation in Denmark, see *Installation of mains connected equipment for registration of consumption* from the Danish National Safety Board.

North America (USA): +1 888 444 1311
Europe, Mid-East & Africa (Sweden): +46 10 478 2000
Asia Pacific (Singapore): +65 6484 7877
product.support@schneider-electric.com
www.schneider-electric.com

Life Is On Schneider Electric

July 2023
F-28210-4 nk

Functional Testing

Conduct an operational check once the energy meter has been fully mounted.

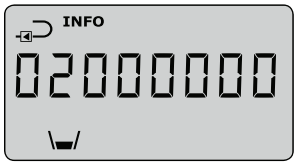
1. Open thermoregulators and valves to enable water flow through the heating system.
2. Activate the front key of the display to change the display reading.
3. Confirm that the displayed values for temperature and water flow are credible values.

Information Code

If errors occur in the measuring system or installation, flashing 'INFO' text appears in the display. 'INFO' will flash as long as the error is present, no matter which reading is chosen.

The 'INFO' text turns off automatically when the error has been corrected.

For a listing of errors, scroll to the error information code in the display (this is the display in which 'INFO' does not flash, but is shown permanently). The code display is available in both the USER and TECH loops. The code consists of eight digits. Each functionality has its own digit dedicated to the display of relevant information associated with that function. For example, all information concerning temperature sensor t1 is shown on the display as the second digit from the left. A complete list of display digits is shown in the table.



Display Digit								
1	2	3	4	5	6	7	8	
Info	t1	t2	t3	V1	V2	In-A	In-B	Description
1								No voltage supply
2								Low battery level
9								External alarm (e.g. via KMP)
	1							t1 Above measuring range or switched off
		1						t2 Above measuring range or switched off
			1					t3 Above measuring range or switched off
	2							t1 Below measuring range or short-circuited
		2						t2 Below measuring range or short-circuited
			2					t3 Below measuring range or short-circuited
	9	9						Invalid temperature difference (t1-t2)
				1				V1 Communication error
					1			V2 Communication error
				2				V1 Wrong pulse figure
					2			V2 Wrong pulse figure
				3				V1 Air
					3			V2 Air
				4				V1 Wrong flow direction
					4			V2 Wrong flow direction
				6				V1 Increased flow
					6			V2 Increased flow
				7				Burst, water runs out of the system
					7			Burst, water runs into the system
				8				Leakage, water runs out of the system
					8			Leakage, water runs into the system
						7		Pulse input A2 Leakage in the system
						8		Pulse input A1 Leakage in the system
						9		Pulse input A1/A2 External alarm
							7	Pulse input B2 Leakage in the system
							8	Pulse input B1 Leakage in the system
							9	Pulse input B1/B2 External alarm

North America (USA): +1 888 444 1311
Europe, Mid-East & Africa (Sweden): +46 10 478 2000
Asia Pacific (Singapore): +65 6484 7877
product.support@schneider-electric.com
www.schneider-electric.com

Life Is On Schneider Electric

July 2023
F-28210-4 nk

Setup via Front Buttons

A number of parameters can be configured at the installation site. The configuration is carried out via the SETUP loop, which is available as long as the device remains in transport state*, or until the configuration is ended by activating 'End setup'.

You can navigate from the USER loop to the SETUP loop by keeping the primary button activated for five seconds until the text '1-USER' appears on the display. Then use the arrow buttons to navigate to '3-SETUP' and press the primary button once to open the SETUP loop3. Use the arrow keys to locate the parameter that you wish to change. You can reach the parameter by pressing the primary button. Then, switch to the individual figures by pressing the arrow buttons (e.g. minutes under time (3-004)). The parameter is set by short-pressing the primary button several times. Exit a menu item by pressing the primary button until 'OK' is shown on the display.

After four minutes without activation of the front buttons, the meter returns to energy reading in the USER loop.**

SETUP Loop		Index Number in Display
1.0	Customer number (No 1)	3-001
2.0	Customer number (No 2)	3-002
3.0	Date	3-003
4.0	Time**	3-004
5.0	Yearly target date 1 (MM.DD)	3-005
6.0	Monthly target date 1 (DD)	3-006
7.0	Flow sensor position: Inlet or outlet flow (A-code)	3-007
8.0	Energy unit (B code)	3-008
9.0	M-Bus primary address internal (No 34)	3-009
10.0	Primary address module slot 1 (No 34)	3-010
11.0	Primary address module slot 2 (No 34)	3-011
12.0	Averaging time of min./max. P and Q	3-012
13.0	Θ_{hc}***	3-013
14.0	t offset	3-014
15.0	Radio "ON" or "OFF"	3-015
16.0	Input A1 (preset register)	3-016
17.0	Input B1 (preset register)	3-017
18.0	Meter number of Input A1	3-018
19.0	Meter number of Input B1	3-019
20.0	TL2	3-020
21.0	TL3	3-021
22.0	TL4	3-022
23.0	t5	3-023
24.0	EndSetup	3-024

* The device is in transport state until a flow of 1% of q_p or more has been registered for the first time. Then the SETUP loop of the meter can only be accessed by breaking the installation seal and separating immediately after reassembling the top and base of the calculator.
** The clock can, under installation seal, be adjusted by all modules.
*** θ_{hc} can only be changed on meter type 6. If you attempt to access this menu using other meter types, the display will show the message 'Off'.

North America (USA): +1 888 444 1311
Europe, Mid-East & Africa (Sweden): +46 10 478 2000
Asia Pacific (Singapore): +65 6484 7877
product.support@schneider-electric.com
www.schneider-electric.com

Life Is On Schneider Electric

July 2023
F-28210-4 nk

Energy Measurement

The flow sensor registers the quantity of water circulating through the system in cubic metres (m^3).

The temperature sensors placed in inlet and outlet pipes register the cooling, i.e. the difference between inlet and outlet temperatures.

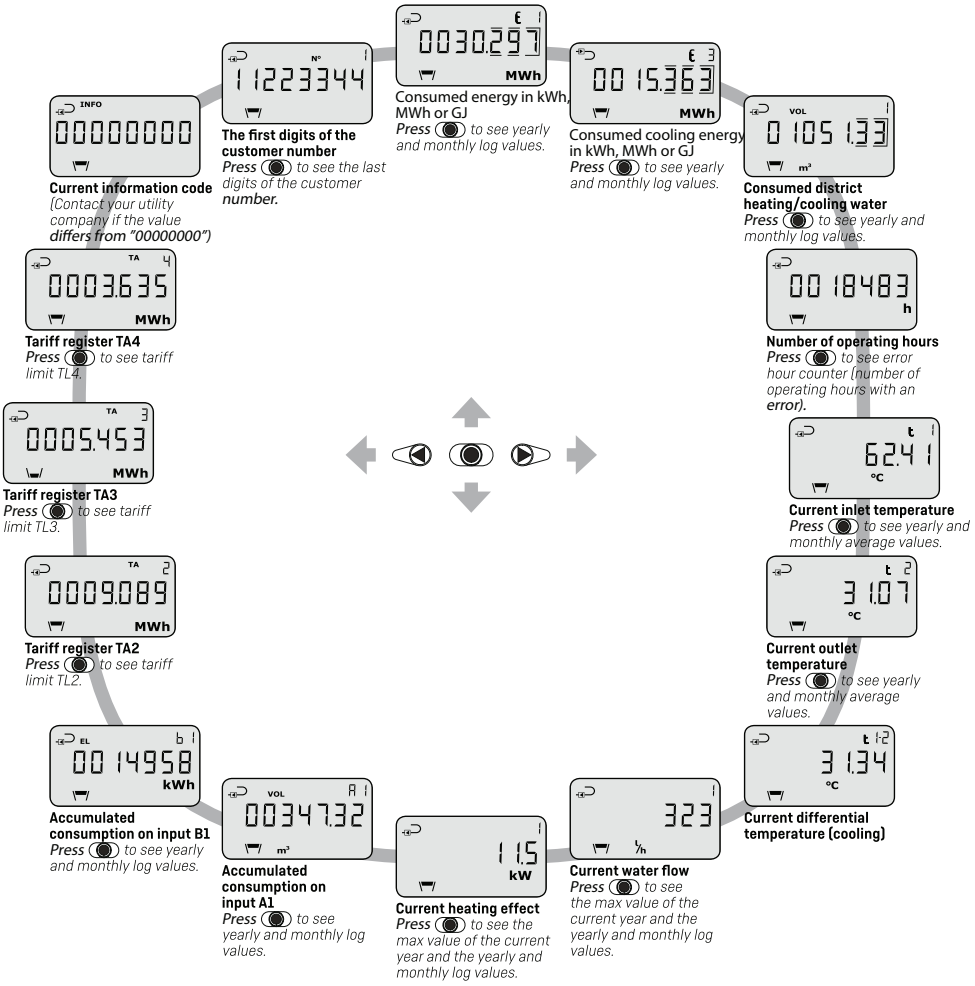
The unit calculates energy consumption on the basis of the volume of water and temperature difference.

Display Readings

When one of the arrow buttons (◀ or ▶) is activated, a new primary reading is displayed.

The primary button ● is used for retrieving historical readings and average values and for returning to primary readings.

Four minutes after the last use of any button on the front of the device, the display reverts back to consumed energy.



North America (USA): +1 888 444 1311
Europe, Mid-East & Africa (Sweden): +46 10 478 2000
Asia Pacific (Singapore): +65 6484 7877
product.support@schneider-electric.com
www.schneider-electric.com

Life Is On Schneider Electric

July 2023
F-28210-4 nk