

LEVEL SENSOR WITH FLOAT



Type: **MELS-FT**

- RANGE 100 ... 2000 mm
- 4 ... 20 mA OR 0 ... 10 V
- CONNECTION LATERAL OR TOP
- SET OVER SOFTWARE



IP65



IP68



Stainless
Steel



M12

ORDER CODE

Code	Field	Meaning
OV	series	Level Sensor with Float
0 ... 3	output	0 4 ... 20 mA, two wires · 1 0 ... 10 V · 2 0.5 ... 10.5 V · 3 2 ... 10 V, each three wires
1 · 2 · 3	float	plastic Ø 24 · plastic Ø 29 (standard) · stainless steel Ø 29
1	resolution	4.5 mm
0 · 1 · 2 · 3	process connection	1" · 1.5" · 1" NPT · 3/4" (for float 24 mm)
100 ... A00	fitting length	100 · 200 · 300 · 400 · 600 mm · A00 for 1000 mm
0 ... 9	electrical connection	0 M12 4-pole · 1 M12 5-pole · 2 M12 8-pole · 3 Deutsch DT04 3-pole · 4 Deutsch DT04 4-pole · 5 Super Seal 1.5 3-pole · 6 bayonet (DIN) 4-pole · 7 valve plug 4-pole · 8 cable, 2 m · 9 MIL 6-pole
0 · 1	connection position	lateral (standard) · top
0 · 1	configuration	factory setting · customized, please indicate
0	other	special model

Further fitting lengths from 150 to 2000 mm are listed in the manufacturer document; for factory setting the measuring range equals the indicating range.



OVERVIEW

A float carrying a magnet rides on the surface and travels along a stainless steel protecting tube; inside the tube the magnet is read out, so nothing rubs and nothing wears. The measuring range covers 100 to 2000 mm in steps of 4.5 mm. The output is either 4 ... 20 mA over two wires, the sensor feeding from the loop, or a voltage of 0 ... 10 V, 0.5 ... 10 V or 2 ... 10 V over three wires — the form is chosen when ordering. The sensor carries no display and no limit value contacts; range start, range end and filter are set with the TrComm software through a DEV-KMA configurator. The electrical connection leaves the body laterally as standard, or upwards as an option, and eight connector forms plus a cable tail are available.

MEASUREMENT	DEVICE AND MOUNTING
• Float with magnet, read out inside the protecting tube • Range 100 ... 2000 mm, resolution 4.5 mm • Hysteresis about 3 mm, measuring amplifier resolution 24 bit • 4 ... 20 mA over two wires, the sensor feeds from the loop • Or 0 ... 10 V, 0.5 ... 10 V, 2 ... 10 V over three wires • Signal on error 3.6 mA and 21 mA • Accuracy 0.1 % of measuring range plus the sensor error • Operating range 0 ... +80 °C, medium 0 ... +100 °C	• Process connection 3/4", 1", 1.5" or 1" NPT through an adaptor • Protecting tube, adaptor and process connection of stainless steel 1.4571 • Float of PE Ø 24 or Ø 29, optionally stainless steel Ø 29 • System pressure up to 25 bar, vertical fitting position • Electrical connection lateral as standard, upwards as an option • Eight connector forms and a 2 m cable tail • No display and no limit value contacts • Set with the TrComm software through a DEV-KMA configurator



TECHNICAL DATA

MEASUREMENT

Principle	float with magnet, read out in the protecting tube
Level	100 ... 2000 mm
Resolution, sensor	4.5 mm
Hysteresis	approx. 3 mm
Medium	non-corrosive liquids
Fitting position	vertical
Turn-on delay time	< 1 s
Note	medium density depends on the float, see the order code

PROCESS AND MATERIALS

Process connection	3/4" · 1" · 1.5" · 1" NPT (adaptor)
System pressure	25 bar · PN 25
Protecting tube	stainless steel 1.4571
Float	PE Ø 24 (medium density 1 or more) · PE Ø 29 · option stainless steel Ø 29 (1.4571)
Adaptor, process connection	stainless steel 1.4571
Body, cover	PBT GF30
Weight	approx. 200 g (1", 300 mm, M12)
Protection class	IP65 electronics at least · IP68 sensor · PCB potted

OUTPUT AND SUPPLY

Current signal	4 ... 20 mA, 2-wire
Current range	3.8 ... 20.5 mA
Signal on error	3.6 mA sensor short circuit, underflow · 21 mA sensor break, overflow
Voltage signal	0 ... 10 V · 0.5 ... 10 V · 2 ... 10 V, 3-wire
Supply voltage	12 ... 30 V DC
Reverse voltage, short circuit	protection available · short-circuit resistant
Electrical connection	lateral · option: top

ACCURACY

Accuracy, measuring amplifier	0.1 % of measuring range plus the sensor error
Resolution, measuring amplifier	24 bit
Filter setting	5 ... 5000 ms
Configuration	per software (TrComm)

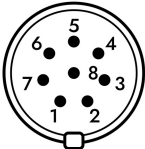
CONFIGURATION AND ENVIRONMENT

Configuration	the MELS-FT carries no display; range start, range end and filter are set with the TrComm configuration and calibration software through a DEV-KMA configurator
Environment	operating range 0 ... +80 °C · storing -20 ... +85 °C · medium 0 ... +100 °C · condensation uncritical



ELECTRICAL CONNECTION

View onto the connector pins at the device



M12x1, 8-pole

2-wire

4 ... 20 mA

+ -

1 3

3-wire

4 ... 20 mA

+ OUT -

1 3 8

Plug M12x1, 8-pole

As a 2-wire device pin 1 and pin 3 carry the 4 ... 20 mA loop. As a 3-wire device pin 1 is plus, pin 3 the output and pin 8 minus. The data sheet gives the function of each pin, not its position in the connector; the view onto the connector pins is taken from the manufacturer's operating instructions.

ACCESSORIES

DEV-KMA configurator	required for programming; the TrComm configuration and calibration software is included in the scope of delivery, and is available separately on request
Connecting cable	to suit the connector form ordered, with the matching protection class
Adaptor	stainless steel 1.4571, for the process connections listed above

The protection class applies only with a mating connector of the same class fitted. The MELS-FT cannot be set without the configurator — it carries no keys.

COMPLIANCE

 IP65	Protection class, electronics	IP65 at least
 IP68	Protection class, sensor	IP68, PCB potted
 Stainless Steel	Wetted material	stainless steel 1.4571; float of PE or stainless steel
 M12	Electrical connection	M12 x 1 and eight further connector forms

The manufacturer document names no approval beyond these for this device, and no EMC test either — unlike the MELS-F.



DIMENSIONS (mm)

