

For initial set up, we strongly recommend that you also refer to the relevant manual!

H250 M40

Variable area flowmeters



Installation, assembly, start-up and maintenance may only be performed by appropriately trained personnel. Check the nameplate for correct operating conditions.



For use in hazardous areas, special codes and regulations are applicable. Instruments must not be connected to power supply before reading instructions described in the supplementary manual.



This instrument complies with the requirements of the Pressure Equipment Directive. Please refer to the nameplate for operating condition limits. Instruments must not be pressurised before reading instructions described in the manual.



The responsibility as to the suitability, intended use and corrosion resistance of the used materials against the measured fluid of this device rests solely with the operator.



For detailed information on Foundation Fieldbus refer to the "H250 M40 FF Supplementary Instructions".



For detailed information on Profibus PA refer to the "H250 M40 PB-PA Supplementary Instructions".

1 Installation



Special conditions of use to be observed:

- The connection facilities for the equipotential bonding conductor of the H250 measuring part or the M40 indicator unit shall be connected to the equipotential bonding system of the hazardous area.
- When the material titanium is used for measuring parts the generation of sparks due to impact or friction between titanium and other materials shall be prevented (appropriately protected installation).
- When the system is operated with flammable media the measuring parts shall be included in the recurring pressure test of the system.
- The cable glands and blind plugs provided with the enclosure (or equivalent types) shall be used to ensure a sufficient degree of IP-protection and for sealing non-used openings.
- To avoid the risk of electrostatic charge the variable-area flowmeter, type H250.../M40...-Ex and the indicator unit, type M40...-Ex shall not be used in areas where severely charge generating processes are to be assumed. The corresponding notes in the operating instructions manual shall be observed.
- For permissible ambient and medium temperatures reference is made to the tables given in the operating instructions manual. All further specifications and notes shall be considered correspondingly.

Observe the type of protection (refer to nameplate) to apply the correct supplementary manual!

Prior to installation:

- Blow or flush out the pipes or tubes leading to the flowmeter.
- For gas flow applications, dry the pipes or tubes leading to the flowmeter.

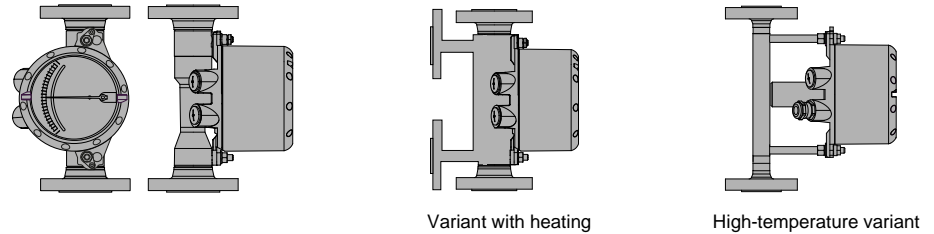
Installation:

- Align the pipes or tubes leading to and from the flowmeter with the process connections to keep them free of stress.
- If necessary, support the pipes or tubes to prevent vibration being transmitted to the flowmeter.
- Install the flowmeters with inlet at the bottom and outlet at the top within 5° of the vertical. Respectively 5° of the horizontal for H250H.
- Follow accepted plumbing practices for threaded or flanged fittings and the intended use.

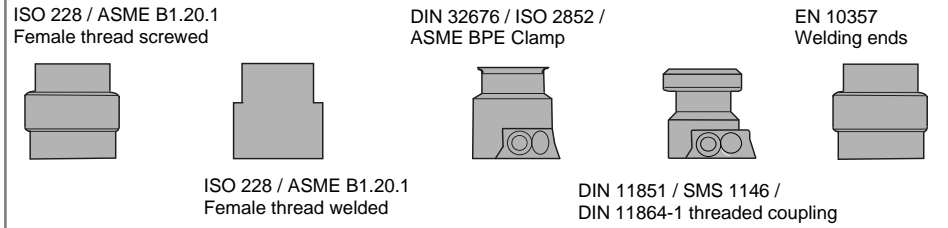
For accurate flow measurement, the application data should be consistent with the sizing data and calibration of the variable area flowmeter.

Device variants

Variants are illustrated as an example with EN 1092-1 / ASME B16.5 flanges



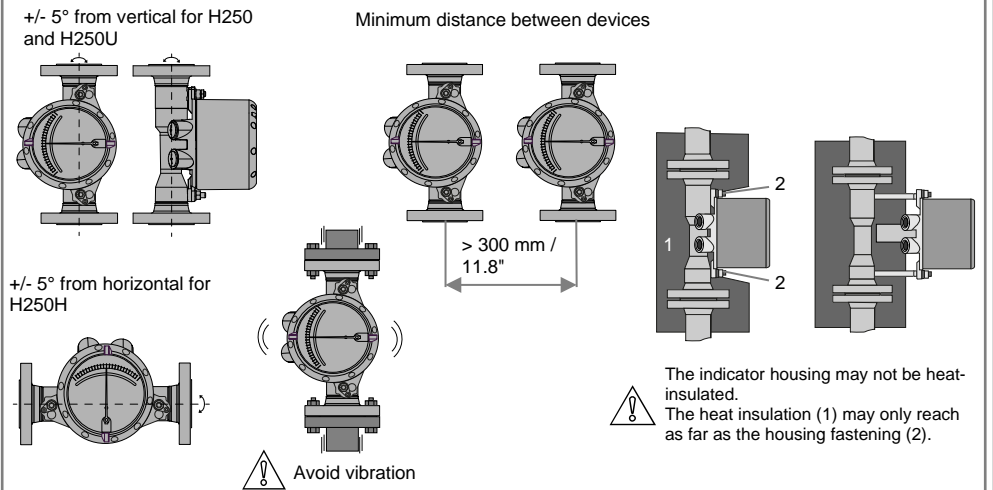
Process connection variants



Material variants

H250/RR: standard stainless steel
 H250/C: PTFE/ceramic
 H250/XX: XX = HC, Ti, Mo, In etc. special alloy steel
 H250/F: hygienic version

Installation conditions



2 Electrical connection

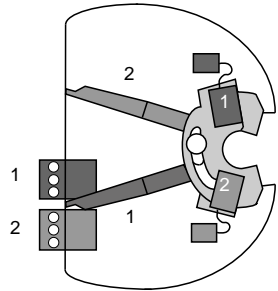


Danger:

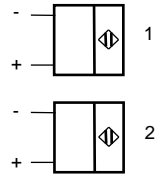
All work on the electrical connections may only be carried out with the power disconnected.
Take note of the voltage data on the nameplate.
Observe the national regulations for electrical installations.

Setting of limit switches

- Loosen the locking screw
- Set the contact pointers 1 and 2 to the desired switching point
- Tighten the locking screw with max. 0.2 Nm

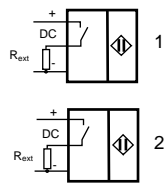


Electrical connection of 2-wire NAMUR limit switches (I7S23,5-N, SC3,5-N0, SJ3,5-SN/S1N)



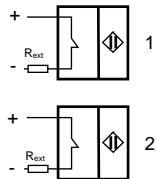
	Terminal	Contact connection
1	1	Contact 1 -
	2	Contact 1 +
2	4	Contact 2 -
	5	Contact 2 +

Electrical connection of 3-wire N/O transistor limit switches (SB3,5-E2)



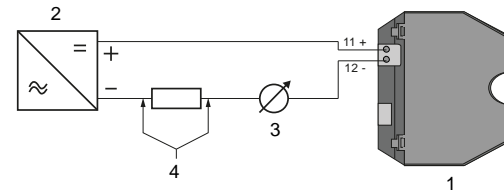
	Terminal	Contact connection
1	1	Contact 1 supply +
	2	Switching output 1
	3	Contact 1 supply -
2	4	Contact 2 supply +
	5	Switching output 2
	6	Contact 2 supply -

Electrical connection of 2-wire REED limit switches



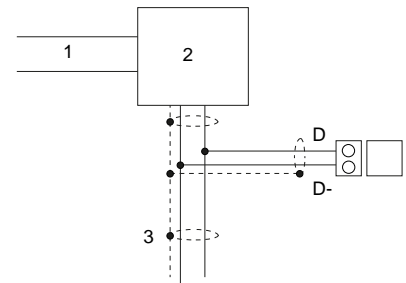
	Terminal	Contact connection
1	1	Contact 1 +
	3	Contact 1 -
2	4	Contact 2 +
	6	Contact 2 -

Electrical signal output ESK4A



- 1 Current output of ESK4A
- 2 Power supply 14...32 VDC (intrinsically safe max. 30 VDC)
- 3 Measuring signal 4...20 mA
- 4 External load, HART communication

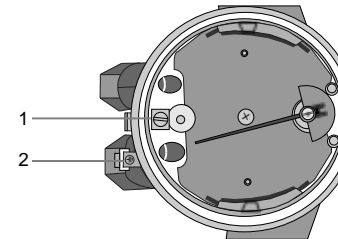
Fieldbus communication ESK4-FF / ESK4-PA



- 1 FF HSE Bus / Profibus DP
- 2 Linking device / bus coupler
- 3 FF H1 Bus / Profibus PA, 2-wire with shielding
- 4 H250/M40/ESK4-FF / H250/M40/ESK4-PA

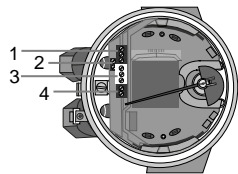
- Bus voltage 9...32 VDC
- Nominal current 16 mA

Grounding connections



- 1 Grounding connection on the indicator
- 2 Outer grounding connection

Electrical connection ESK-T limit outputs



- 1 Binary output 1
- 2 ESK4A power supply / current output
- 3 Binary output 2
- 4 Binary input

	Terminal	Binary output connection	
		NAMUR 8 VDC supply, 1/3 mA signal	Transistor output max. 30 VDC, max. 100 mA
1	1	Contact 1 +	Contact 1 supply +
	2	Contact 1 -	
	3		Switching output 1 / supply -
2	4	Contact 2 +	Contact 2 supply +
	5	Contact 2 -	
	6		Switching output 2 / supply -

Download documents and software

Scan the code on the nameplate or scan the following code and enter the serial number.



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Verification

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Select your country from the region / language selector to view your local KROHNE contact details on:

www.krohne.com

