	FOUNDATION™ fieldbus	PROFIBUS PA
FOUNDATION™ fieldbus		
Description	FOUNDATION™ fieldbus protocol	N/A
PROFIBUS PA		
Description	N/A	PROFIBUS PA protocol Profile A&B, ver.3.0 (EN 50170 vol.2)

Approvals and certification

CE / UKCA	The device meets the essential requirements of the EU Directives and UK Regulations. The manufacturer certifies successful testing of the product by applying the CE or UKCA marking.
	For more data about the European Standards and UK Designated Standards related to this device, refer to the EU and the UKCA Declarations of Conformity. You can download this document free of charge from the website (Download Center).
Explosion protection	
ATEX (EU Type Approval)	II 1 G Ex ia IIC T6...T1 Ga or II 2 G Ex ia IIC T6...T1 Gb
	II 2 G Ex db IIC T6...T1 Gb
IECEx	Ex ia IIC T6...T1 Ga or Ex ia IIC T6...T1 Gb
	Ex db IIC T6...T1 Gb
UKEX - pending	II 1 G Ex ia IIC T6...T1 Ga or II 2 G Ex ia IIC T6...T1 Gb
	II 2 G Ex db IIC T6...T1 Gb
Other standards and approvals	
EMC	EU Electromagnetic Compatibility Directive
	UK Electromagnetic Compatibility Regulations
Vibration resistance	EN 60721-3-4 - vibration class 4M4 (1...200 Hz:1g, 10g shock ½ sinus: 11 ms)

Table 2-3: LT40 (fieldbus communication module): technical data

① The ambient temperature limit is related to the process temperature. Do not put thermal insulation around the transmitter housing. Refer to the "Temperature limits: LT40 C/F reed-chain level transmitter" section in this chapter.

2.1.3 MS15-series and MS40-series limit switches

	MS15 series	MS40 series

Measuring system

Measuring principle	Bistable reed switch (SPDT) that is magnetically operated by a magnetic float in an adjacent measuring chamber
Application range	Level detection

Design

Description of device	Limit switch attached adjacent to the measuring chamber of the magnetic level indicator

Measuring accuracy

Hysteresis	The hysteresis value agrees with the model of the magnetic level indicator. For more data, refer to the handbook.

	MS15 series	MS40 series

Operating conditions

Temperature		
Ambient temperature	-40...+80°C / -40...+176°F ①	
Process temperature	The ambient temperature limit is related to the process temperature. Do not put thermal insulation around the limit switch housing. Refer to the "Temperature limits: MS15-series limit switch" and "Temperature limits: MS40-series limit switch" sections in this chapter.	
Operating temperature	-40...+115°C / -40...+239°F ②	-40...+120°C / -40...+248°F ②
Storage temperature	-40...+80°C / -40...+176°F	
Pressure		
Operating pressure	Atmospheric pressure Max. height above mean sea level: 2000 m / 6560 ft	
Other conditions		
Ingress protection (IEC 60529)	MS15 series: IP66 / IP68 (at a depth of 1.5 m for 2 weeks)	
	MS40 series: IP66	
Relative air humidity (RH)	0...99%	

Installation conditions

Notes	Adjust the switch position in relation to the hysteresis data (switching point offset) and the density of the liquid
Dimensions	Refer to the "Dimensions" section

Materials

Housing	Aluminium with epoxy powder paint or stainless steel (1.4404 / 316L)	Aluminium with epoxy powder paint
Clamp	Stainless steel (1.4401 / 316)	
Cable gland	Plastic (for M20 × 1.5 only), nickel-plated brass or stainless steel	Plastic

Electrical connections

Switching capacity	MS15 / MS40: Absolute ratings: 250 V AC/DC; 1 A; 60 VA/W
	MS15 NAMUR / MS40 NAMUR: Agrees with DIN 19234 (NAMUR); Umax = 13 V DC
EN 60947-5-1 electrical data (MS15 and MS40 only)	Overvoltage category II
	Rated insulation voltage, Ui: 250 V AC or 250 V DC
	Rated impulse withstand voltage, Uimp: 2.5 kV
	Rated conventional thermal current, Ith: 1 A
	Pollution degree: 4
Utilization category (EN 60947-5-1) with current and voltage ratings	AC13: Ie = 0.5 A; Umax = 60 V AC
	AC13: Ie = 0.25 A; Umax = 250 V AC
	DC12: Ie = 1 A; Umax = 60 V DC
	DC13: Ie = 0.5 A; Umax = 60 V DC

	MS15 series	MS40 series
Short-circuit protection device	0.25 A fuse, type 1500 A interrupting rating (IEC 60127-2/1)	
	1 A fuse, application category gG (IEC 60269) or type 1500 A interrupting rating (IEC 60127-2/1)	
Intrinsically safe circuit data	Refer to supplementary instructions or approval certificates	
Cable entry	M20 × 1.5; 1/2 NPT	M16 × 1.5
Cable gland	None; M20 × 1.5; 1/2 NPT	M16 × 1.5

Approvals and certification

CE / UKCA	The device meets the essential requirements of the EU Directives and UK Regulations. The manufacturer certifies successful testing of the product by applying the CE or UKCA marking.	
	For more data about the European Standards and UK Designated Standards related to this device, refer to the EU and the UKCA Declarations of Conformity. You can download this document free of charge from the website (Download Center).	
Explosion protection		
ATEX (EU Type Approval)	II 1 G Ex ia IIC T6...T1 or II 2 G Ex ia IIC T6...T1 Gb	
	II 2 G Ex db IIC T6...T1 Gb	N/A
IECEx	Ex ia IIC T6...T1 Ga or Ex ia IIC T6...T1 Gb	
	Ex db IIC T6...T1 Gb	N/A
UKEX - pending	II 1 G Ex ia IIC T6...T1 or II 2 G Ex ia IIC T6...T1 Gb	
	II 2 G Ex db IIC T6...T1 Gb	N/A
Other standards and approvals		
LVD	MS15 / MS40: EU Low-Voltage Directive (LVD); UK Electrical Equipment (Safety) Regulations	
	MS15 NAMUR / MS40 NAMUR: N/A	
Vibration resistance (EN 60721-3-4)	Aluminium housing: vibration class 4M7 (1...200 Hz:3g, 25g shock ½ sinus: 11 ms)	
	Stainless steel housing: vibration class 4M4 (1...200 Hz:1g, 10g shock ½ sinus: 11 ms)	N/A

Table 2-4: MS15-series and MS40-series limit switches: technical data

① The ambient temperature limit is related to the process temperature. Do not put thermal insulation around the limit switch housing. Refer to the "Temperature limits: MS15-series limit switch" and "Temperature limits: MS40-series limit switch" sections in this chapter.

② The operating temperature is the temperature of the electronic parts