



FMSC SERIES

Particles counter monitor

The FMSC particles counter monitor is a compact and accurate device for continuous monitoring of solid particles in hydraulic and lubricant fluids.

Designed to react quickly to any change in contamination of the system. Suitable for high pressure, it can be directly mounted to a pressure line.

The FMSC is an optical particle monitor that works with "light extinction principle". This method classifies the size and quantity of particles within a measuring cell and a laser beam. It has the classifications according to common cleanliness classes.

The calibration of the device follows the ISO 11943. It calculates and displays results according to ISO 4406, SAE AS4059, NAS 1638 and GOST 17216.

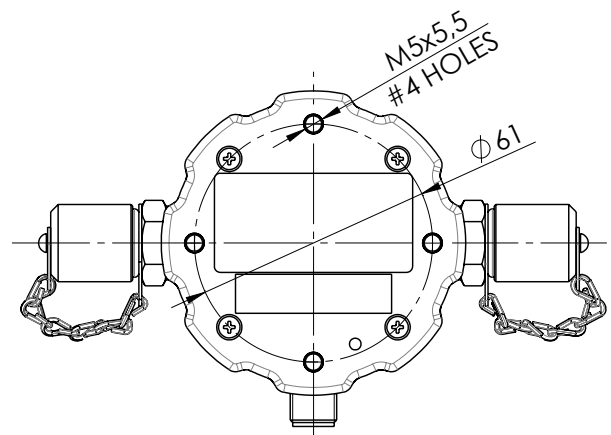
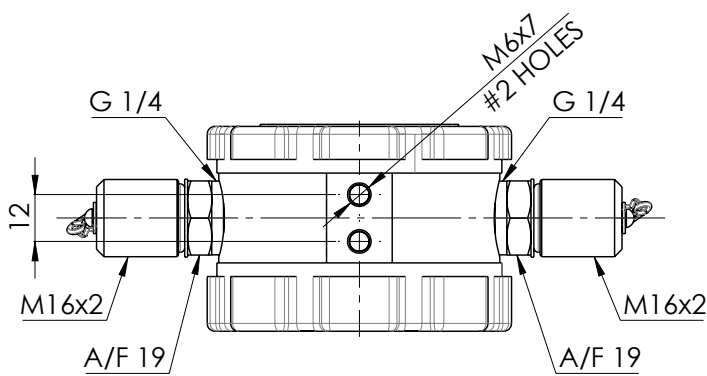
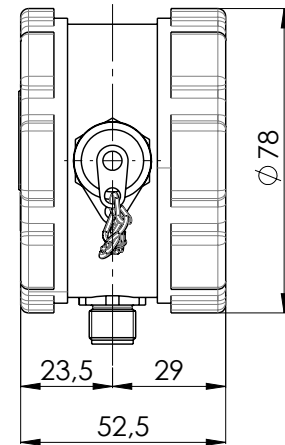
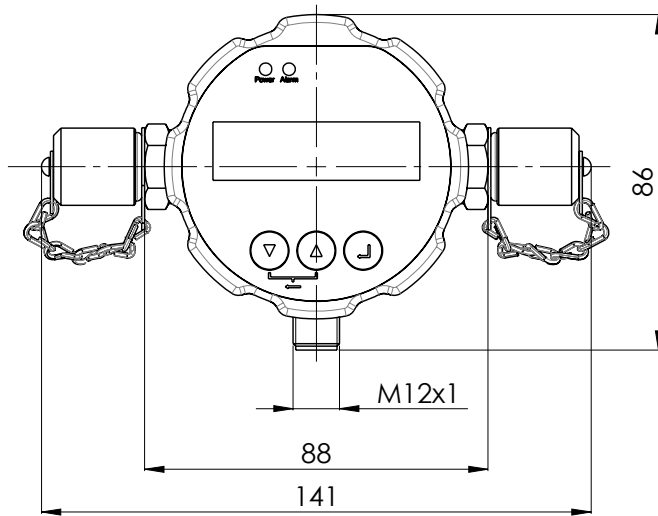


MAX OPERATING PRESSURE:	max operating 420 bar
FLOW RATE:	50... 400 ml/min
FLUID CONNECTIONS:	G 1/4" Minimes M16x2
ELETTRICAL CONNECTION:	M12x1 - 8 pole
MATERIALS:	Stainless steel, sapphire, chrome, FFKM, NBR Minimes coupling: zinc/nickel
PROTECTION CLASS:	IP67
ANALOG OUTPUT:	4...20 mA
TEMPERATURE RANGE:	-20 °C +85 °C
FLUID COMPATIBILITY:	mineral oils (H, HH, HM, HL, HV, HLP, HLPD, HVLP), synthetic esters (HETG, HEPG, HEES, HEPR), polyalkylenglycols (PAG), zinc and ash-free oils (ZAF), polyalphaolefins (PAO), phosphate ester

The sensor is supplied complete with an Operating Manual and can only be used by authorized operators who have read and understood all of its contents.

The FMSC Particles counter monitor is certified

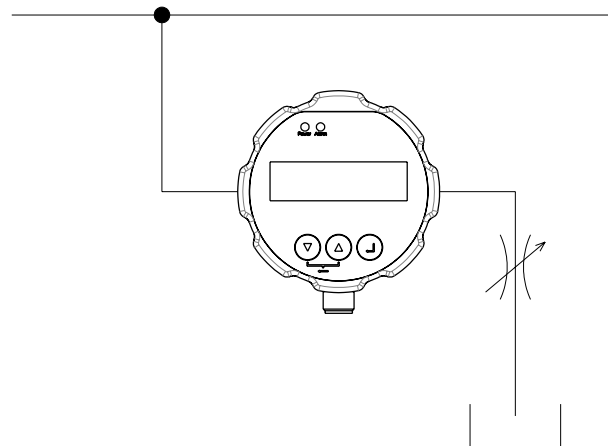
OVERALL DIMENSIONS



CONNECTING SCHEME

For further information on installation and electrical connection, please refer to the manual.

MAIN HYDRAULIC LINE



TECHNICAL INFORMATION

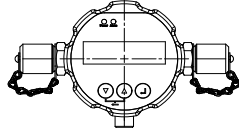
Sensor Data	Size	Unit
Max Operating Pressure dynamic	420	bar
static	600	bar
Permissible flow rate	50...400	ml/min
Operating conditions		
Temperature	-20 ... +85	°C
Relative humidity	0 ... 100	% r H. (non-condensing)
Display readable up to	60	°C
Compatible liquids	mineral oils (H, HH, HL, HM, HV, HLP, HLPD, HVLP)	
	synthetic esters (HETG, HEPG, HEES, HEPR)	
	polyalkyleneglycols (PAG)	
	zinc and ash-free oils (ZAF)	
	polyalphaolefins (PAO)	
Wetted Materials	Stainless steel, sapphire, chrome, NBR, minimess coupling: Zinc/nickel	
Protection class ¹⁾	IP67	
Power supply	9 ... 33	V
Current consumption	Max. 0,2	A
Max. power consumption	2	W
Output		
Power output ²⁾	4...20	mA
Accuracy power output ³⁾	±2	%
Interfaces	RS232/CAN	-
Alarm contact	Open collector	-
Digital input for start and stop		
Power supply	9...33	V
Data memory	3000	data records
Connecting dimensions		
Fluid connections	G1/4" minimess M16x2	inch
Electrical connections	M12x1, 8-pole	-
Tightening torque M12-connection	0,1	Nm
Measuring range according to ISO 4406		
Cleanliness level (measuring range)	0...24	Ordinal number (OZ)
Cleanliness level (calibrated range)	10...22	Ordinal number (OZ)
Measuring accuracy (calibrated range)	±1	Ordinal number (OZ)
Weight	~720	g

1) With screwed-on connector

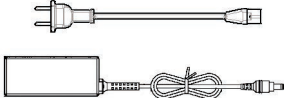
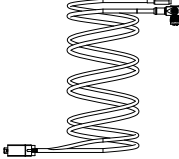
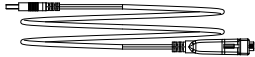

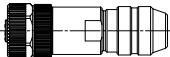
2) Output IOut is freely configurable (see operating manual)

3) In relation to the analogue current signal (4 ... 20 mA)

ORDERING INFORMATION

DESCRIPTION	CODE	ORDER PART NUMBER	DRAWING
Particles counter monitor	FMSC01S0	04.006.00187	

ACCESSORIES

DESCRIPTION	CODE	ORDER PART NUMBER	DRAWING
Universal power supply Input range: 100...240VAC 50/60Hz Output voltage: 24VDC / max. 0,63A / 15W Temperature range in operation: 0...40°C Compatible with cable FMSA04S0 and FMSA07S0 Supply line: Euro power cord 2-pole, 1.5m	FMSA01S0	04.006.00190	
Data cable for computer connection Side 1: M12 8-pole, 90° angled, IP67 Side 2: D-Sub connector 9-pole with separate DC Plug for power supply Length: 5m, shielded Temperature range -25°C...90°C Oil-resistant	FMSA04S0	04.006.00191	
Adapter USB - RS232 serial Side 1 (PC): USB A plug Side 2 (periphery): D-Sub connector 9-pole Length: 1.8m	FMSA05S0	04.006.00194	
Data cable with open ends Side 1: M12 8-pole, 90° angled, IP67 Side 2: open Length: 5m, shielded Temperature range -25°C...90°C Oil-resistant	FMSA03S0	04.006.00192	
Sensor connector M12 8-pole, straight, IP67 Suitable for cable diameter 6...8 mm Temperature range -20°C ... 85°C Oil-resistant	FMSA02S0	04.006.00193	
Cable for power supply connection Side 1: M12 8-pole, 90° angled, IP67 Side 2: DC Plug for power supply Length: 5m, shielded Temperature range -25°C...90°C Oil-resistant	FMSA07S0	04.006.00533	