

Flowmeter SONO 3100 with FUS060 operating instructions, accessories and spare parts

Operating instructions

Description	Order No.
SITRANS FUS060	
• English	A5E01204521
• German	A5E02123845
SITRANS F US SONO 3100	
• English	A5E00814513

This device is shipped with a Quick Start guide and a CD containing further SITRANS F US literature.

All literature is also available for free at:
<http://www.siemens.com/flowdocumentation>

Accessories

Description	Order No.
Potting kit for terminal box of flow sensors for IP68/NEMA 6P (not for Ex sensors)	FDK:085L2403



Description	Transducer length	Order No.
Extraction tool for replacement of SONO 3200 O-ring transducers under pressure and for hot-tapping (working conditions: typically water, max. 40 bar and max. 60 °C (max. 580 psi and max. 140 °F))	50 mm (1.97") transducers	FDK:085B5331



Cable connection boxes

(For the connection of individually transducer cables with the FUS060 transducer cables)

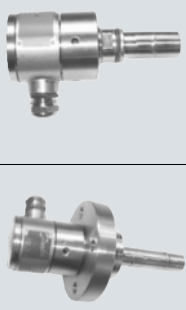
Description	Order No.
Junction box for coaxial cable	
• IP68 metal box for 4 coaxial cables	FDK:085B1361
• IP68 EEx e plastic box for 4 coaxial cables, no ATEX approval	FDK:085B1363



Spare parts

Transducer SONO 3200 spare parts, complete units

Type	Material	Gasket	Press. rating	Terminal housing	Approv.	Temp. range [°C (°F)]	Length mm (inch)	Order No.
O-ring	316 SS	O-ring	PN 40	Plastic, PA 6.6 M20		-20 ... +100 (-4 ... +212)	50 (1.97)	FDK:085B5453
O-ring	316 SS	O-ring	PN 40	316 SS M20		-20 ... +200 (-4 ... +392)	50 (1.97)	FDK:085B5450
O-ring	316 SS	O-ring	PN 40	316 SS M20	Ex d ¹⁾	-20 ... +180 (-4 ... +356)	50 (1.97)	FDK:085B5451
O-ring	316 SS	O-ring	PN 40	316 SS M20	Ex i ²⁾	-10 ... +190 (14 ... 374)	50 (1.97)	A5E00836448
O-ring	316 SS	O-ring	PN 40	Plastic, PA 6.6 ½" NPT		-20 ... +100 (-4 ... +212)	50 (1.97)	A5E00839472
O-ring	316 SS	O-ring	PN 40	316 SS ½" NPT		-20 ... +200 (-4 ... +392)	50 (1.97)	A5E00839431
Flange	316 SS	Graphite	PN 40	Plastic, PA 6.6 M20		-20 ... +100 (-4 ... +212)	88 (3.47)	FDK:085B5461
Flange	316 SS	Graphite	PN 40	316 SS M20		-20 ... +200 (-4 ... +392)	88 (3.47)	FDK:085B5462
Flange	316 SS	Graphite	PN 40	316 SS M20	Ex d ¹⁾	-20 ... +180 (-4 ... +356)	88 (3.47)	FDK:085B5463
Flange	316 SS	Graphite	PN 40	316 SS M20	Ex i ²⁾	-10 ... +190 (14 ... 374)	88 (3.47)	A5E00836465
Flange	316 SS	Graphite	PN 40	Plastic, PA 6.6 ½" NPT		-20 ... +100 (-4 ... +212)	88 (3.47)	A5E00839479
Flange	316 SS	Graphite	PN 40	316 SS ½" NPT		-20 ... +200 (-4 ... +392)	88 (3.47)	A5E00839440
Flange	316 SS	Copper ring	PN 40	316 SS PG13.5 (cryogenic version)		-200 ... +100 (-328 ... +212)	88 (3.47)	FDK:085B5416
Flat flange	316 SS	Flat gasket	PN 40	316 SS M20 (cryogenic version)		-200 ... +100 (-328 ... +212)	88 (3.47)	A5E02593524
Flange	316 SS	Graphite	PN 160	316 SS M20		-20 ... +180 (-4 ... +356)	88 (3.47)	FDK:085B5464
Flange	316 SS	Graphite	PN 160	316 SS M20	Ex d ¹⁾	-20 ... +180 (-4 ... +356)	88 (3.47)	FDK:085B5465



¹⁾ ATEX (Ex) IIC 2G EEx d IIC T3 ... T6

²⁾ For systems with FUS060 ATEX IIC 2G Ex dem [ia/ib] T6/T4/T3

Terminal housing for SONO 3200 sensor

Type	Pressure rating	Material	Temp. range [°C (°F)]	Order No.	
Terminal housing (M20 cable gland)	N/A	PA 6.6	-20 ... +100 (-4 ... +212)	FDK:085B5501	
Terminal housing (M20 cable gland)	N/A	ASTM 316	-20 ... +200 (-4 ... +392)	FDK:085B5504	
Terminal housing (½" NPT cable gland)	N/A	PA 6.6	-20 ... +100 (-4 ... +212)	A5E00839460	
Terminal housing (½" NPT cable gland)	N/A	ASTM 316	-20 ... +200 (-4 ... +392)	A5E00839427	
Ex d ¹⁾ terminal housing (M20 cable gland)	N/A	ASTM 316	-20 ... +180 (-4 ... +356)	FDK:085B5505	
Ex i ²⁾ terminal housing (M20 cable gland)	N/A	ASTM 316	-10 ... +190 (14 ... 374)	A5E00835255	

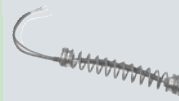
1) ATEX (Ex) IIC 2G EEx d IIC T3 ... T6

2) For systems with FUS060 ATEX IIC 2G Ex dem [ia/ib] T6/T4/T3

SONO 3200 spare parts, transducer body without terminal housing, including insert

Type	Material	Gasket	Pressure rating	Temp. range [°C (°F)]	Length mm (inch)	Order No.	
O-ring	316 SS	O-ring	PN 40	-20 ... +200 (-4 ... +392)	50 (1.97)	FDK:085B1405	
Flange	316 SS	Graphite	PN 40	-20 ... +200 (-4 ... +392)	88 (3.47)	FDK:085B1464	

SONO 3200 spare parts, transducer insert

Type	Temp. range [°C (°F)]	Length mm (inch)	Order No.	
Insert	-20 ... +200 (-4 ... +392)	50 (1.97)	FDK:085B1411	
Insert	-20 ... +200 (-4 ... +392)	88 (3.47)	FDK:085B1459	

Transducer SONO 3200 gaskets

Type	Pressure rating	Material	Temperature range [°C (°F)]	Order No.	
Gasket O-ring (3 pcs. for o-ring transducers)	PN 40	FKM	-20 ... +200 (-4 ... +392)	FDK:085B1089	
Gasket flange	PN 40/160	Graphite	-20 ... +200 (-4 ... +392)	FDK:085B1080	
Gasket and 12 mm (0.47") bolts and nuts for flange transducers	PN 40	Flat ring type	-20 ... +200 (-4 ... +392)	FDK:085B1083	
Gasket and 16 mm (0.63") bolts and nuts for flange transducers	PN 160	Graphite, 316 SS	-20 ... +200 (-4 ... +392)	FDK:085B1084	
Gasket for cryogenics transducer with flat flange (2 pcs.)	PN 40	Graphite/metal	-200 ... +100 (-328 ... +212)	A5E02593522	
Gasket cryogenics (2 pcs.)	PN 40	Copper, O-ring	-200 ... +100 (-328 ... +212)	A5E02593512	

SONO 3200 cable glands

Type/description	Temperature range [°C (°F)]	Appr.	Order No.	
black PA plastic, cable Ø 5 ... 13 mm	-20 ... 100 (-4 ... +212)		A5E02246304	
½" NPT gray PA plastic, cable Ø 5 ... 9 mm	-20 ... 100 (-4 ... +212)		A5E02246309	
½" NPT chrome-plated brass, cable Ø 5 ... 9 mm	-40 ... 100 (-40 ... +212)		A5E02246258	
M20 stainless steel, cable Ø 4 ... 6 mm	-25 ... 200 (-13 ... +392)	Ex i	A5E02246194	
M20 Stainless steel, cable Ø 5 ... 8 mm	-60 ... 180 (-76 ... +356)	Ex d	A5E02246311	

Cables for SONO 3100 with FUS060

Description	Length m (ft)	Order No.	
Coaxial cable for FUS060, (75 Ω, max. 70 °C (158 °F), black PVC) (2 pcs.)	3 (9.84)	A5E00875101	
	15 (49.21)	A5E00861432	
	30 (98.43)	A5E01278662	
	60 (196.85)	A5E01278682	
	90 (295.28)	A5E01278687	
	120 (393.7)	A5E01278698	
High temp. coaxial cable for FUS060; with 0.3 m brown PTFE high temp. transducer part, max. 200 °C (392 °F) and black PVC for remaining transmitter part with SMB plug, max. 70 °C (158 °F); (impedance 75 Ω) (2 pcs.)	3 (9.84)	A5E00875105	
	15 (49.21)	A5E00861435	
	30 (98.43)	A5E01196952	
SITRANS FUS special coaxial cable sets for low temperature cryogenic systems, with SMB-plug for transmitter SITRANS FUS060, PTFE material, temp. -200 ... +200 °C - (-328 ... +392 °F), impedance 75 Ω (2 pcs.)	10 (32.84)	A5E02085593	
	15 (49.21)	A5E03262088	
	30 (98.43)	A5E02085644	
	40 (131.23)	A5E02085649	