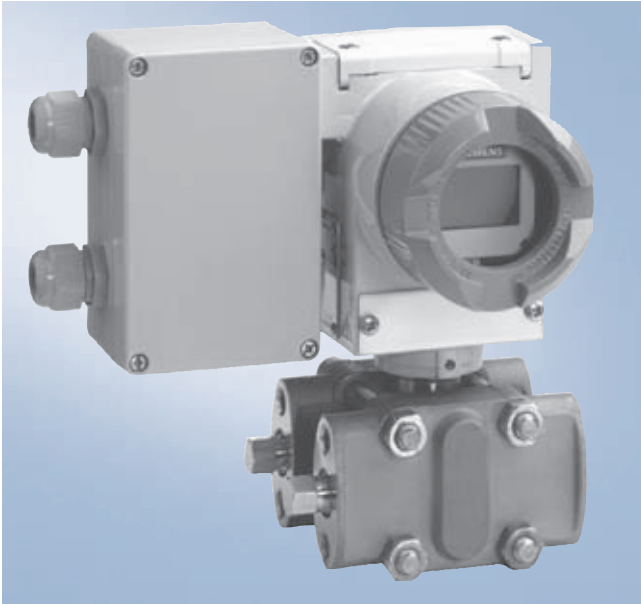


# SITRANS P measuring instruments for pressure

## SITRANS P Accessories

### Supplementary electronics for 4-wire connection

#### Overview



SITRANS P pressure transmitter with supplementary electronics for 4-wire connection

Direct connection of the supplementary electronics to a SITRANS P pressure transmitter from the DS III and DS III PA series produces a transmitter for four-wire connection.

The supplementary electronics cannot be attached to explosion-protected pressure transmitters. The supplementary electronics is fitted in a light metal housing which is mounted on the left side of the pressure transmitter.

#### Note on ordering:

The supplementary electronics has to be ordered through the **supplementary options** of the pressure transmitter in question.

#### Structural design

Dimensions (W x H x D) in mm 80 x 120 x 60 (3.15 x 4.72 x 2.36) (inch)

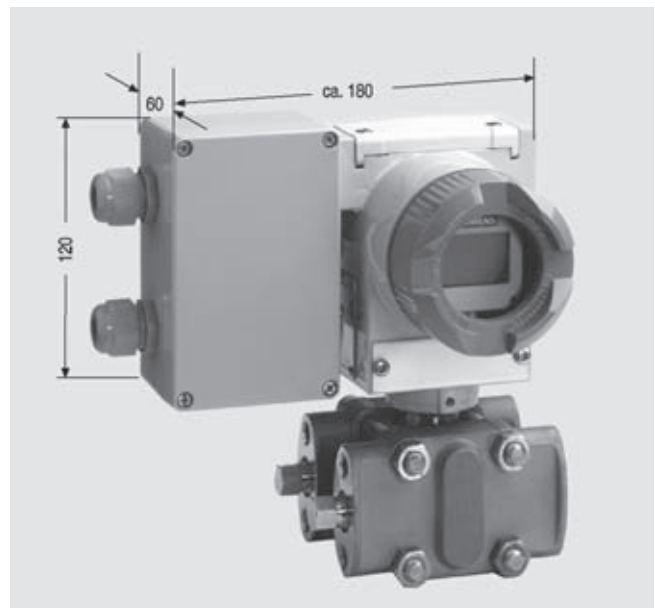
Electrical connection Screw terminals (Pg 13.5 cable inlet) or Han 7D / Han 8U plug

#### Power supply

Supply voltage 230 V AC (-10 ... +6%, 47 ... 63 Hz, approx. 6 VA) or 24 V AC/DC (24 V AC  $\pm$  10%, 47 ... 63 Hz, approx. 3 VA)

Permissible ripple (within the specified limits) Approx. 2.5 V<sub>pp</sub>

#### Dimensional drawings



SITRANS P pressure transmitters with supplementary electronics for 4-wire connection, dimension drawing, dimensions in mm (inch)

#### Technical specifications

##### SITRANS P, supplementary electronics for 4-wire connection

#### Output

Output signal	0 ... 20 mA or 4 ... 20 mA
Load	Max. 750 $\Omega$
Voltage measurement	Linear (square-rooting in transmitter if necessary)
Electrical isolation	Between power supply and input/output

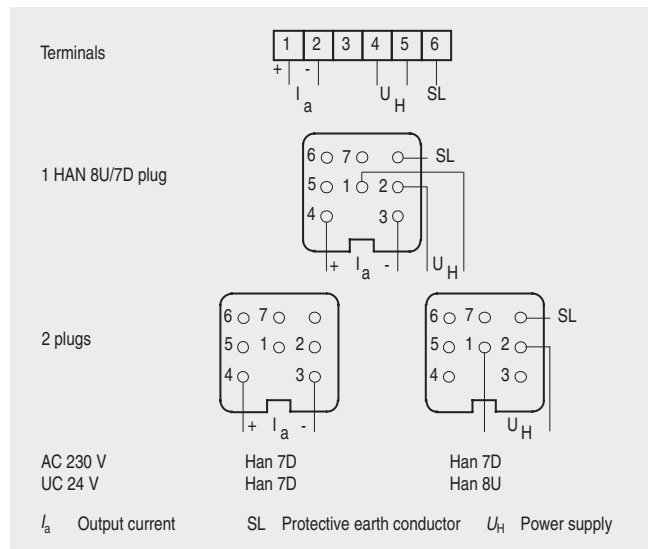
#### Measuring accuracy

Conformity error (in addition to transmitter)	$\leq 0.15\%$ of set span
Influence of ambient temperature	$\leq 0.1\%$ per 10 K ( $\leq 0.1\%$ per 18 °F)
Power supply effect	$\leq 0.1\%$ per 10% change in voltage or frequency
Load effect	$\leq 0.1\%$ per 100% change

#### Rated conditions

Ambient temperature	-20 ... +80 °C (-4 ... +176 °F)
Storage temperature	-50 ... +85 °C (-58 ... +185 °F)
Degree of protection	IP54 to EN 60529
Electromagnetic compatibility (EMC)	EN 50081, EN 50082

#### Schematics



Supplementary electronics for 4-wire connection, connection diagram

# SITRANS P measuring instruments for pressure

## SITRANS P Accessories

### Supplementary electronics for 4-wire connection

2

Selection and Ordering data		Order code
<b>Supplementary electronics for 4-wire connection</b>		V
Order No. of the transmitter <b>7MF4.33-.....-1AA.</b> add "-Z" and Order code.		
<b>Power supply</b>	<b>Electrical connection</b>	
24 V AC/DC	Terminals; 2 Pg screwed glands, to left	1
	2 Han 7D/Han 8U plugs incl. mating connector, to left	3
	1 Han 7D plug incl. mating connector, angled	5
	Terminals; 1 Pg screwed gland, downwards	6
	1 Han 8U plug incl. mating connector, downwards (observe arrangement of plug and differential pressure line)	9
230 V AC	Terminals; 2 Pg screwed glands, to left	7
	2 Han 7D plugs incl. mating connector, to left	8
<b>Output current</b>		
0 to 20 mA		0
4 to 20 mA		1
<b>Accessories</b>		Order No.
<b>Instruction Manual</b>		<b>A5E00322799</b>

# SITRANS P measuring instruments for pressure

## SITRANS P Accessories

Accessories / spare parts for  
MKII, MS, DS III, DS III PA and DS III FF series

2

Selection and Ordering data		Order No.
<b>Replacement measuring cell for pressure</b> for SITRANS P, DS III, DS III PA and DS III FF series		<b>7 MF 4 9 9 0 -</b> 0 - 0 DC 0
<b>Measuring cell filling</b>	<b>Measuring cell cleaning</b>	
Silicone oil	Standard	1
Inert liquid	Grease-free	3
<b>Measured span</b>		
0.01 ... 1 bar	(0.15 ... 14.5 psi)	B
0.04 ... 4 bar	(0.58 ... 58 psi)	C
0.16 ... 16 bar	(2.32 ... 232 psi)	D
0.63 ... 63 bar	(9.14 ... 914 psi)	E
1.6 ... 160 bar	(23.2 ... 2320 psi)	F
4.0 ... 400 bar	(58.0 ... 5802 psi)	G
<b>Wetted parts materials</b>		
Seal diaphragm	Process connection	
Stainless steel	Stainless steel	A
Hastelloy	Stainless steel	B
Hastelloy	Hastelloy	C
<b>Process connection</b>		
• Connection shank G $\frac{1}{2}$ B to EN 837-1		0
• Female thread $\frac{1}{2}$ -14 NPT		1
• Oval flange made of stainless steel, max. span 160 bar (2320 psi)		
- Mounting thread $\frac{7}{16}$ -20 UNF to EN 61518		2
- Mounting thread M10 to DIN 19 213		3
<b>Further designs</b>		
Please add "-Z" to Order No. and specify Order code.		
<b>Acceptance test certificate B</b> to EN 10204-3.1.B		C12

Selection and Ordering data		Order No.
<b>Replacement measuring cell for absolute pressure (from the pressure series)</b> for SITRANS P, DS III, DS III PA and DS III FF series		<b>7 MF 4 9 9 2 -</b> 0 - 0 DC 0
<b>Measuring cell filling</b>	<b>Measuring cell cleaning</b>	
Silicone oil	Standard	1
Inert liquid	Grease-free	3
<b>Measured span</b>		
8.3 ... 250 mbar	(0.12 ... 3.63 psi)	E) D
43 ... 1300 mbar	(0.62 ... 18.9 psi)	E) F
0.16 ... 5 bar	(2.32 ... 72.5 psi)	E) G
1 ... 30 bar	(14.5 ... 435 psi)	H
<b>Wetted parts materials</b>		
Seal diaphragm	Process connection	
Stainless steel	Stainless steel	A
Hastelloy	Stainless steel	E) B
Hastelloy	Hastelloy	E) C
<b>Process connection</b>		
• Connection shank G $\frac{1}{2}$ B to EN 837-1		0
• Female thread $\frac{1}{2}$ -14 NPT		1
• Oval flange made of stainless steel, max. span 160 bar (2320 psi)		
- Mounting thread $\frac{7}{16}$ -20 UNF to EN 61518		2
- Mounting thread M10 to DIN 19 213		3
<b>Further designs</b>		
Please add "-Z" to Order No. and specify Order code.		
<b>Acceptance test certificate B</b> to EN 10204-3.1.B		C12

E) Combinations of the versions marked with E) are subject to the export regulations AL: 2B230, ECCN: N.

# SITRANS P measuring instruments for pressure

## SITRANS P Accessories

Accessories / spare parts for  
MKII, MS, DS III, DS III PA and DS III FF series

2

Spare parts / Accessories		Order No.	
<b>Replacement measuring cell for absolute pressure (from the differential pressure series) for SITRANS P, DS III, DS III PA and DS III FF series</b>		7 MF 4 9 9 3 - - 0 DC 0	
<b>Measuring cell filling</b>	<b>Measuring cell cleaning</b>		
Silicone oil	Standard	1	
Inert liquid	Grease-free	3	
<b>Measured span</b>			
8.3 ... 250 mbar	(0.12 ... 3.63 psi)	E)	D
43 ... 1300 mbar	(0.62 ... 18.9 psi)	E)	F
0.16 ... 5 bar	(2.32 ... 72.5 psi)	E)	G
1 ... 30 bar	(14.5 ... 435 psi)		H
5.3 ... 100 bar	(76.9 ... 1450 psi)		KE
<b>Wetted parts materials</b>			
Seal diaphragm	Parts of measuring cell		
Stainless steel	Stainless steel		A
Hastelloy	Stainless steel	E)	B
Hastelloy	Hastelloy	E)	C
Tantalum	Tantalum		E
Monel	Monel	E)	H
Gold	Gold		L
<b>Process connection</b>			
Female thread 1/4-18 NPT with flange connection			
• Sealing screw opposite process connection			
- Mounting thread M10 to DIN 19 213		0	
- Mounting thread 7/16-20 UNF to EN 61518		2	
• Vent on side of process flange <sup>1)</sup>			
- Mounting thread M10 to DIN 19 213		4	
- Mounting thread 7/16-20 UNF to EN 61518		6	
<b>Non-wetted parts materials</b>			
• Stainless steel process flange screws		2	
<b>Further designs</b>			
Please add "-Z" to Order No. and specify Order code.			
<b>O-rings for process flanges</b> (instead of FPM (Viton))			
• PTFE (Teflon)		A20	
• FEP (with silicone core, approved for food)		A21	
• FFPM (Kalrez, compound 4079)		A22	
• NBR (Buna N)		A23	
<b>Acceptance test certificate B</b> to EN 10204-3.1.B		C12	
<b>Process connection G1/2A</b>		D16	
<b>Remote seal flanges</b> (not together with K01, K02 and K04)		D20	
<b>Vent on side for gas measurements</b>		H02	
<b>Process flanges</b>			
• without		K00	
• with process flange made of			
- Hastelloy		K01	
- Monel		K02	
- Stainless steel with PVDF insert max. PN 10 (MWP 145 psi) max. temperature of medium 90 °C (194 °F)		K04	

1) Not for span "5.3 ... 100 bar (76.9 ... 1450 psi)"

E) Combinations of the versions marked with E) are subject to the export regulations AL: 2B230, ECCN: N.

Spare parts / Accessories		Order No.	
<b>Replacement measuring cell for differential pressure and PN 32/160 (MWP 464/2320 psi) for SITRANS P, DS III, DS III PA and DS III FF series</b>		7 MF 4 9 9 4 - - 0 DC 0	
<b>Measuring cell filling</b>	<b>Measuring cell cleaning</b>		
Silicone oil	Standard	1	
Inert liquid	Grease-free	3	
<b>Measured span</b>			
<b>PN 32 (MWP 464 psi)</b>			
1 ... 20 mbar <sup>1)</sup>	(0.0145 ... 0.29 psi)		B
<b>PN 160 (MWP 2320 psi)</b>			
1 ... 60 mbar	(0.0145 ... 0.87 psi)		C
2.5 ... 250 mbar	(0.036 ... 3.63 psi)		D
6 ... 600 mbar	(0.087 ... 8.70 psi)		E
16 ... 1600 mbar	(0.232 ... 23.2 psi)		F
50 ... 5000 mbar	(0.725 ... 72.5 psi)		G
0.3 ... 30 bar	(4.35 ... 435 psi)		H
<b>Wetted parts materials</b> (stainless steel process flanges)			
Seal diaphragm	Parts of measuring cell		
Stainless steel	Stainless steel		A
Hastelloy	Stainless steel		B
Hastelloy	Hastelloy		C
Tantalum <sup>2)</sup>	Tantalum		E
Monel <sup>2)</sup>	Monel		H
Gold <sup>2)</sup>	Gold		L
<b>Process connection</b>			
Female thread 1/4-18 NPT with flange connection			
• Sealing screw opposite process connection			
- Mounting thread M10 to DIN 19 213		0	
- Mounting thread 7/16-20 UNF to EN 61518		2	
• Vent on side of process flange			
- Mounting thread M10 to DIN 19 213		4	
- Mounting thread 7/16-20 UNF to EN 61518		6	
<b>Non-wetted parts materials</b>			
Stainless steel process flange screws		2	
<b>Further designs</b>			
Please add "-Z" to Order No. and specify Order code.			
<b>O-rings for process flanges</b> (instead of FPM (Viton))			
• PTFE (Teflon)		A20	
• FEP (with silicone core, approved for food)		A21	
• FFPM (Kalrez, compound 4079)		A22	
• NBR (Buna N)		A23	
<b>Acceptance test certificate B</b> to EN 10204-3.1.B		C12	
<b>Remote seal flanges</b> (not together with K01, K02 and K04)		D20	
<b>Vent on side for gas measurements</b>		H02	
<b>Stainless steel process flanges for vertical differential pressure lines</b> (not together with K01, K02 and K04)		H03	
<b>Process flanges</b>			
• without		K00	
• with process flange made of			
- Hastelloy		K01	
- Monel		K02	
- Stainless steel with PVDF insert max. PN 10 (MWP 145 psi) max. temperature of medium 90 °C (194 °F)		K04	

1) Not suitable for connection of remote seal

2) Only together with max. spans 250, 1600, 5000 and 30000 mbar (3.63, 23.2, 72.5 and 435 psi).

# SITRANS P measuring instruments for pressure

## SITRANS P Accessories

Accessories / spare parts for  
MKII, MS, DS III, DS III PA and DS III FF series

2

Spare parts / Accessories		Order No.
<b>Replacement measuring cell for differential pressure and PN 420 (MWP 6092 psi)</b> for SITRANS P, DS III, DS III PA and DS III FF series		<b>7MF4995 - 0DC0</b>
<b>Measuring cell filling</b>	<b>Measuring cell cleaning</b>	
Silicone oil	Standard	1
<b>Measured span</b>		
2.5 ... 250 mbar	(0.036 ... 3.63 psi)	D
6 ... 600 mbar	(0.087 ... 8.70 psi)	E
16 ... 1600 mbar	(0.232 ... 23.2 psi)	F
50 ... 5000 mbar	(0.725 ... 72.5 psi)	G
0.3 ... 30 bar	(4.35 ... 435 psi)	H
<b>Wetted parts materials</b> (stainless steel process flanges)		
Seal diaphragm	Parts of measuring cell	
Stainless steel	Stainless steel	A
Hastelloy	Stainless steel	B
Gold <sup>1)</sup>	Gold	L
<b>Process connection</b> Female thread 1/4-18 NPT with flange connection		
<ul style="list-style-type: none"> <li>Sealing screw opposite process connection                             <ul style="list-style-type: none"> <li>- Mounting thread M12 to DIN 19 213</li> <li>- Mounting thread 7/16-20 UNF to EN 61518</li> </ul> </li> <li>Vent on side of process flange                             <ul style="list-style-type: none"> <li>- Mounting thread M12 to DIN 19 213</li> <li>- Mounting thread 7/16-20 UNF to EN 61518</li> </ul> </li> </ul>		1 3 5 7
<b>Non-wetted parts materials</b>		
<ul style="list-style-type: none"> <li>Stainless steel process flange screws</li> </ul>		2
<b>Further designs</b> Please add "-Z" to Order No. and specify Order code.		
<b>O-rings for process flanges</b> (instead of FPM (Viton))		
<ul style="list-style-type: none"> <li>PTFE (Teflon)</li> <li>FEP (with silicone core, approved for food)</li> <li>FFPM (Kalrez, compound 4079)</li> <li>NBR (Buna N)</li> </ul>		A20 A21 A22 A23
<b>Acceptance test certificate B</b> to EN 10204-3.1.B		C12
<b>Stainless steel process flanges for vertical differential pressure lines</b>		H03
<b>without process flanges</b>		K00

1) Not together with max. span 600 mbar

Spare parts / Accessories		Order No.
<b>Replacement measuring cell for level</b> for SITRANS P, DS III, DS III PA and DS III FF series		<b>7MF4996 - 0DC0</b>
<b>Measuring cell filling</b>	<b>Measuring cell cleaning</b>	
Silicone oil	Standard	1
<b>Rated measuring range</b>		
250 mbar	(3.63 psi)	D
600 mbar	(8.70 psi)	E
1600 mbar	(23.2 psi)	F
5 bar	(72.5 psi)	G
<b>Wetted parts materials</b> (stainless steel process flanges)		
Seal diaphragm	Parts of measuring cell	
Stainless steel	Stainless steel	A
<b>Process connection of low-pressure side</b> Female thread 1/4-18 NPT with flange connection		
<ul style="list-style-type: none"> <li>Sealing screw opposite process connection                             <ul style="list-style-type: none"> <li>- Mounting thread M10 to DIN 19 213</li> <li>- Mounting thread 7/16-20 UNF to EN 61518</li> </ul> </li> </ul>		0 2
<b>Non-wetted parts materials</b>		
<ul style="list-style-type: none"> <li>Stainless steel process flange screws</li> </ul>		2
<b>Further designs</b> Please add "-Z" to Order No. and specify Order code.		
<b>O-rings for process flanges</b> (instead of FPM (Viton))		
<ul style="list-style-type: none"> <li>PTFE (Teflon)</li> <li>FEP (with silicone core, approved for food)</li> <li>FFPM (Kalrez, compound 4079)</li> <li>NBR (Buna N)</li> </ul>		A20 A21 A22 A23
<b>Acceptance test certificate B</b> to EN 10 204-3.1 B		C12
<b>without process flanges</b>		K00

# SITRANS P measuring instruments for pressure

## SITRANS P Accessories

Accessories / spare parts for  
MKII, MS, DS III, DS III PA and DS III FF series

2

Spare parts / Accessories	Order No.	Spare parts / Accessories	Order No.
<b>Mounting bracket and mounting parts</b> <u>for pressure transmitters</u> MKII series (7MF4010-.....-1.C.) MS series (7MF4013-.....-1.C.) DS III, DS III PA and DS III FF series (7MF403-.....-1.C.) <u>for absolute pressure transmitters</u> DS III, DS III PA and DS III FF series (7MF423-.....-1.C.) • made of steel • made of stainless steel	7MF4997-1AB 7MF4997-1AH	<b>Sealing screws</b> (1 set = 2 off) for process flange • made of stainless steel • made of Hastelloy <b>Vent valves</b> complete (1 set = 2 off) • made of stainless steel • made of Hastelloy <b>Electronics</b> • for DS III series • for DS III PA series • for DS III FF series <b>Connection board</b> • for DS III series • for DS III PA and DS III FF series <b>O-rings</b> for process flanges made of • FPM (Viton) • PTFE (Teflon) • FEP (with silicone core, approved for food) • FFPM (Kalrez, compound 4079) • NBR (Buna N) <b>Instruction Manual <sup>1)</sup></b> • for MK II series - German, English - French, Spanish, Italian • for MS series - German, English - French, Spanish, Italian • for DS III series - German - English - French - Spanish - Italian • for DS III PA series - German - English - French - Spanish - Italian • for DS III FF series - German - English (planned) - French (planned) - Spanish (planned) - Italian (planned) <b>Brief instructions (Leporello)</b> • for MS series, German, English • for DS III series, German, English • for DS III PA series, German, English • for DS III FF series, German, English <b>CD with documentation</b> for MK II, MS, DS III, DS III PA and DS III FF series German, English, French, Italian, Spanish <b>Instruction Manual</b> for replacement of electronics, measuring cell and connection board • German/English <b>HART communication</b> • HART modem	7MF4997-1CG 7MF4997-1CH 7MF4997-1CP 7MF4997-1CQ 7MF4997-1DK 7MF4997-1DL 7MF4997-1DM 7MF4997-1DN 7MF4997-1DP 7MF4997-2DA 7MF4997-2DB 7MF4997-2DC 7MF4997-2DD 7MF4997-2DE C73000-B5674-C100 C73000-B5650-C100 C73000-B5674-C40 C73000-B5650-C40 A5E00047090 A5E00047092 A5E00053218 A5E00053219 A5E00053220 A5E00053225 A5E00053276 A5E00053277 A5E00053278 A5E00053279 A5E00279627 A5E00279629 A5E00279630 A5E00279632 A5E00279631 A5E00279631 C79000-X5674-C41 A5E00047093 A5E00053274 A5E00282355 A5E00090345 A5E00078060 7MF4997-1DA <sup>D)</sup>
<b>Mounting bracket and mounting parts</b> <u>for pressure transmitters</u> MKII series (7MF4010-.....-1.A., -1.B. and -1.D.) MS series (7MF4013-.....-1.A., -1.B. and -1.D.) DS III, DS III PA and DS III FF series (7MF403-.....-1.A., -1.B. and -1.D.) <u>for absolute pressure transmitters</u> DS III, DS III PA and DS III FF series (7MF423-.....-1.A., -1.B. and -1.D.) • Made of steel • Made of stainless steel	7MF4997-1AC 7MF4997-1AJ		
<b>Mounting bracket and mounting parts</b> <u>for differential pressure transmitters with flange</u> <u>thread M10</u> DS III, DS III PA and DS III FF series (7MF433-.... and 7MF443-....) • made of steel • made of stainless steel	7MF4997-1AD 7MF4997-1AK		
<b>Mounting bracket and mounting parts</b> <u>for differential pressure transmitters with flange</u> <u>thread M12</u> DS III, DS III PA and DS III FF series (7MF453-....) • made of steel • made of stainless steel	7MF4997-1AE 7MF4997-1AL		
<b>Mounting bracket and mounting parts</b> <u>for differential and absolute pressure trans-</u> <u>mitters with flange thread 7/16-20 UNF</u> DS III, DS III PA and DS III FF series (7MF433-...., 7MF443-.... and 7MF453-....) • made of steel • made of stainless steel	7MF4997-1AF 7MF4997-1AM		
<b>Cover</b> Made of die-cast aluminium, including gasket, for MK II, MS, DS III, DS III PA and DS III FF series • without window • with window	7MF4997-1BB 7MF4997-1BE		
<b>Cover</b> Made of stainless steel, including gasket, for DS III, DS III PA and DS III FF series • without window • with window	7MF4997-1BC 7MF4997-1BF		
<b>Analog indicator</b> • Scale 0 ... 100% • Customer-specific scale divisions as specified in plain text	7MF4997-1BN 7MF4997-1BP-Z Y20: .....		
<b>Digital indicator</b> Including mounting material for MS, DS III, DS III PA and DS III FF series	7MF4997-1BR		
<b>Measuring-point label</b> • without inscription (5 off) • with inscription (1 off) Data according to Y01 or Y02, Y15 and Y16 (see "SITRANS P pressure transmitters")	7MF4997-1CA 7MF4997-1CB-Z Y..: .....		
<b>Mounting screws</b> for measuring-point label, earthing and connec- tion terminals or for digital indicator (50 off)	7MF4997-1CD	Supplementary electronics for 4-wire connection see page 2/106 ▶ Available ex stock Power supply units see "SITRANS I power supply units and input isola- tors".	

1) You can download the Instruction Manuals free-of-charge from the Internet site [www.siemens.com/sitransp](http://www.siemens.com/sitransp).

D) Subject to export regulations AL: N, ECCN: EAR99H.