

Datasheet for

SITRANS P320 Pressure transmitter

Ordering data: **7MF03601MW015CM2**

C12+A02+E20

General

Manufacturer	Siemens
Supplier	Siemens
Product designation	differential pressure transmitter for level measurement
Brand name	SITRANS P320
Type designation	SITRANS P320 Pressure transmitter
Net weight	1.8 kg
Slogan	Digital pressure transmitter with extended diagnostic capabilities and remote safety handling

Mode of operation and application

Measuring principle	piezo-resistive
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Input

Measurand	Differential pressure, hydrostatic level, Level, Temperature
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Measuring range

Measuring range, differential	-1.6 bar...1.6 bar
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Measuring span

Measuring span (maximum)	1.6 bar
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Output

Current output

Number of outputs	1
Signal range	4 ... 20 mA
Failure signal (minimum)	3.55 mA
Failure signal (maximum)	22.8 mA
Output voltage	10.5 V...45 V
Output current	3.55 mA...22.8 mA
Time constant for smoothing	0 s...100 s
Load (maximum)	1,500 Ohm
Load with HART-Communicator	230 Ohm...850 Ohm
Load with HART-Modem	230 Ohm
Load with HART-Modem (maximum)	850 Ohm
Load with HART SIMATIC PDM	230 Ohm...600 Ohm
Interface	NAMUR NE43

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Accuracy

Measuring accuracy, relative	0.065 %
Base factor	Full-scale value

Operating conditions

Medium temperature (maximum)	100 °C
Standard for vibration resistance	IEC 60068-2-6
Vibration resistance during operation (maximum)	5 m/s ²
Standard for shock tests	IEC 60068-2-27
Degree of pollution	Pollution degree 2
Standard for the degree of pollution	IEC 60664-1
Overvoltage class	Installation category III
Standard for the overvoltage class	IEC 61010-1

Pressure

Operating pressure, relative (minimum)	-970 mbar
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Environmental conditions

Ambient temperature during operation	-40 °C...+80 °C
Ambient temperature during storage	-50 °C...+85 °C
Ambient temperature during transport	-40 °C...+85 °C
Environmental category during operating according to IEC 60721	4K26
Standard for environmental conditions Standard for environmental conditions	IEC 60721-3-4
Relative humidity during operation	4 %
Relative humidity during operation (maximum)	95 %

Degree of protection

IP rating	IP66
NEMA Enclosure Type	NEMA Type 4X

Electromagnetic compatibility EMC

Standard for EMC	EN 61326-1, NAMUR NE21
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Structural Design

Mechanical design

Design of the device	compact version, sensor integrated
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Process connection

Number of process connections	2
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Process connection at the low-pressure side

Design	connection for diaphragm seal
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Process connection at the high-pressure side

Design	connection for diaphragm seal
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Material

Process connection

Material at low-pressure side stainless steel

Material number at low-pressure side according to DIN EN 10027-2 1.4408

Material number at low-pressure side according to AISI 316

Material at high-pressure side stainless steel

Material number at high-pressure side according to DIN EN 10027-2 1.4408

Material number at high-pressure side according to AISI 316

Enclosure

Material aluminum

Material number according to DIN EN 10027-2 3.2581

Grade according to DIN EN 10027-1 GD-AISi12

Coating Polyurethane (PUR):

Material of the process flange sealing at low-pressure side fluorocarbon-rubber (FKM/FPM)

Material of the process flange sealing at high-pressure side stainless steel

Material of the process flange at high-pressure side fluorocarbon-rubber (FKM/FPM)

Separation & Measuring Membrane

Material of the separation membrane at low-pressure side Stainless steel

Material number of the separation membrane at low-pressure side according to DIN EN 10027-2 1.4404

Material number of the separation membrane at low-pressure side according to AISI 316L

Material of the separation membrane at high-pressure side Stainless steel

Material number of the separation membrane at high-pressure side 1.4404

Material number of the separation membrane at high-pressure side 316L

Cable entry & cable gland

Material of the cable entry Stainless steel

Miscellaneous

Material of the gasket between sensor and housing acrylonitril-butadiene-styrol-rubber (NBR)

Filling liquid in the measuring cell silicone oil

Material of the nameplate Stainless steel

Material number of the nameplate according to DIN EN 10027-2 1.4404

Material number of the nameplate according to AISI 316L

Material of the tag plate stainless steel

Material number of the tag plate according to DIN EN 10027-2 1.4404

Material number of the tag plate according to AISI 316L

Material of the processing flange screws at low-pressure side Stainless steel

Electrical connections

Connection technology 2-wire connection

Potential insulation galvanic isolation

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Number of cable entries	2
Design of the cable entry	1/2"-14 NPT
Design of the electrical connection	screw-type terminals

Display and operating controls

Design of the display	multisegment display
Operating controls	Pushbutton
Number of controls	4
Ambient temperature for display readability	-20 °C...+80 °C

Power supply

Type of the auxiliary power supply	electrical
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Electrical

Type of power supply	External
Voltage type	DC
Nominal voltage, DC	24 V
Supply voltage, DC	10.5 V...45 V

Communication

Protocol	HART
Protocol version	Version 7
Number of cyclic transmitted values (maximum)	4
Transmittable value	differential pressure, electronic device temperature, level, measuring cell temperature, volume

Certificates and approvals

Fluid group according to PED 2014/68/EU	gas group 1, liquid group 1
Pressure device category according to PED 2014/68/EU	Article 4.3, category III
Manufacturer declaration	3.1 (Inspection certificate)
Standard for factory certificate	EN 10204

Reliability (MTBF)

MTBF	382 a
Standard for MTBF	SN 29500
Determination procedure	Number of registered failures
Applicability	Measuring device

Explosion protection

Ex-marking (IECEx & ATEX)	II 1/2 G Ex ia/db IIC T4...T6 Ga/Gb
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