

**Pressure Transmitters
for SF₆ Gas Density Monitoring.
RS485 & analog output
series EGD.358**



*All st. steel housing and 316L wetted parts
with Declaration of Conformity, CE
The RS485 communicates
using the Modbus® protocol
with various analog output signals*

General features

- Temperature-compensated SF₆ gas density measurement
- Excellent long-term stability and accuracy
- High immunity to electrical noise and surge interference
- RS485 communication with Modbus RTU protocol
- Various analog output signals available
- Stainless steel housing and wetted parts

Application area

- Gas-insulated substations (GIS)
- High-voltage circuit breakers
- Gas-insulated substations
- SF₆ gas density monitoring and condition monitoring systems



General specification

Measuring ranges

Density : 0 ... 60 g/L
Pressure : 0 ... 16 bar abs.
Temperature : -40 ... +80°C
Pressure reference : Absolute

Accuracy

Density : ±0.6%
Pressure at 20°C : ±1.0% FS
Temperature : ±1°C

including non-linearity, hysteresis, zero point and
full scale error according to IEC 61298-2

Overpressure

Contact factory

Communication

Digital Interface : RS485 (Half-duplex)
Communication protocols : Modbus RTU

Analog output types

4...20mA, 2-wire system
0...10V, 3-wire system
0...5V, 3-wire system
1...5V, 3-wire system

Power supply

DC 24V
Ref. power: 9...30 VDC
Available power:

Response time ≤ 5ms

Isolation > 100MΩ at 100 VDC

SF₆ Gas Density Monitor series EGD.358

Temperature range of

Compensated temperature range: -10...80°C
Operating: -20...100°C
-40...125°C [option]
Ambient: -20...100°C
Storage: -40...125°C

Thermal error

Zero thermal error: ±0.75%FS @ 25°C, typical
Span thermal error: ±0.75%FS @ 25°C, typical

Electrical connection & protection

M12 Plug IP67

Pressure connection

G 1/4", DIN 3852-E with sealing by DIN 3869 ring seals
G 1/2"
R 1/4"
R 1/2"

Materials

Wetted parts: st. steel 316L
Sensor sealing: FKM
Body: st. steel 304

Weight

Approx. 140g

Technical specifications

Input pressure range

Density : 0 ... 60 g/L
Pressure : 0 ... 16 bar abs.
Temperature : -40 ... +80°C
Pressure reference : Absolute

Output signal / Supply

Current:
2-wire system 4...20mA Vs=12...30 VDC

Voltage:
3-wire system 0...10V Vs=12...30 VDC
 0...5V
 1...5V
 0.5...4.5V

Performance

¹Accuracy: Density : ±0.6%
 Pressure at 20°C : ±1.0% FS
 Temperature : ±1°C
¹ accuracy according to IEC 60770 - limit point adjustment
including non-linearity, hysteresis as well as repeatability

Permissible load / R_L
Current: 2-wire, $R_L \max = [(V_s - V_s \min) / 0.02A] \Omega$
Voltage: 3-wire, $R_L \min = 10k\Omega$

Influence effects:
Supply: 0.05%FSO/10V
Longterm stability: ≤ ±0.5%FS / year
Response time: <5ms

Thermal effects (Offset and Span)

/ Permissible temperatures

FS thermal error: ±0.75%FS @ 25°C, typical
Zero thermal error: ±0.75%FS @ 25°C, typical
Operating temperature: -40...80°C
Compensated temperature: -10...80°C

Mechanical stability

Vibration: No change at 10 g RMS (20...2000) Hz
Shock: 0.1 g (1m/s) Max.

Materials

Pressure port: Stainless steel 316L
Housing / body: Stainless steel 304
Sensor diaphragm: Stainless steel 316L
Wetted parts: Stainless steel 316L

Miscellaneous

Current consumption
Signal output current max. 25mA

Current
4...20mA, 2-wire system
Signal output voltage max. 7mA

Voltage:
0...10V, 3-wire system
0...5V, 3-wire system
1...5V, 3-wire system
0.5...4.5V / 12...30V, 3-wire system

Ingress protection: IP65 & IP67

EMC Test report for CE conformance

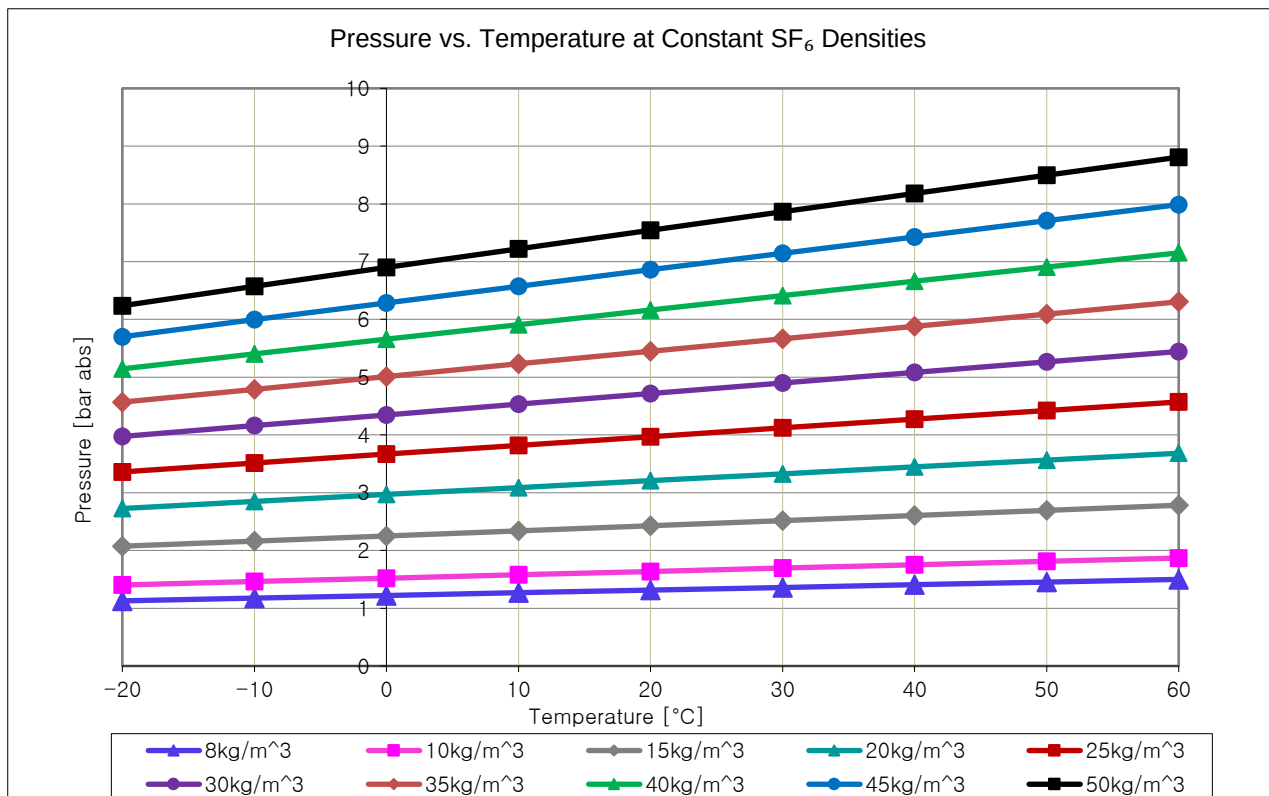
■ EN 61326-2-3:2013 / Class A
■ EN 61326-2-3: 2013 / IEC 61326-1:2012

Electrical protection

Electromagnetic compatibility:
Emission and immunity according to
EN 61326-2-3:20B CCISPR II Group 1, Class A
EN IEC 61000-3-2:2019

Insulation: the transmitter is grounded via
 the process connection

Correction of density values according to temperature changes



Software for correction of density values according to temperature change



Ordering information

Model code EGD.358 · · · · · · B · option

Accuracy

A6	Density ±0.6%
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Digital communication

O8	RS485
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Analog output signal

O1	4...20mA / 2-wire system
O2	0...10V / 3-wire system
O3	0...5V / 3-wire system
O4	1...5V / 3-wire system
O6	0.5...4.5V / 3-wire system

Electrical connection

M	M12 plug, Straight
MA	M12 plug, 90 Angle

Process connection

G2	G 1/2"
G3	G 3/8"
G4	G 1/4"
R2	R 1/2"
R3	R 3/8"
R4	R 1/4"

Pressure range code, unit bar

Code	Range [absolute]
R23	0...1
R26	0...1.6
R28	0...2.5
R30	0...4
R32	0...6
R33	0...10
R35	0...16

Option code

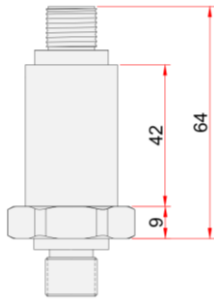
Code	Description
PAA	absolute pressure range [5...6 weeks delivery]
xL	x m cable extension (0 ⁰ l: 5L = 5 m, 3L = 3 m)
T4	-40...+125 °C
AC25	Restrictor screw in socket hole
TP	St. steel tag plate, 60 x 20 x 0.5t
DMCC	Manufacture calibration certificate
KC	KOLAS Ilac-MRA calibration certificate

How to order

EGD.358, 0.6%, RS485, 4...20mA, M12 plug, G 1/2", 0...2.5 bar(abs.)

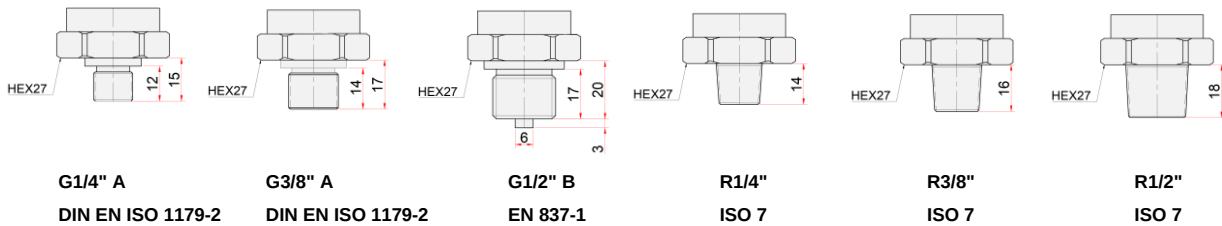
EGD.358.A6.O8.O1.M.G2.BR28/abs

Outline drawing



M12 plug type / IP67

Process connection



Pin assignment, M12 x 1, 5-pin / male

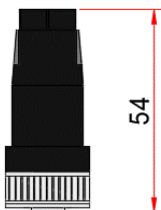
■ RS485 & 4...20mA / 2-wire system

Pin No.	communication
1	OUT/GND
2	N.C.
3	+Vcc
4	A Signal RS-485
5	B Signal RS-485

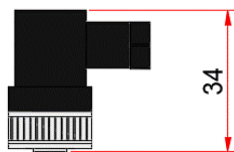
■ RS485 & 0...10V, 0...5V, 1...5V / 3-wire system

Pin No.	communication
1	GND
2	+OUT
3	+Vcc
4	A Signal RS-485
5	B Signal RS-485

Mating plug to M12 x 1, 5-pin



Straight type



90° Angle type