

**Pressure Transmitters
for SF₆ Gas Density Monitoring.
Correction of density values
according to temperature change.
series EGD.357**



All st. steel housing and 316L wetted parts
with Declaration of Conformity, CE

General features

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

Application area

- SF₆ gas insulated switchgear (GIS)
- High-voltage circuit breakers
- Gas-insulated substations (GIS Substations)
- SF₆ gas density monitoring system
- SF₆ 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

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

Ref. power: DC 24V
Available power: DC 12...30V

Response time ≤ 5ms

Isolation > 100MΩ at 100 VDC

Materials

Wetted parts: st. steel 316L
Sensor sealing: FKM
EPDM [option]
Body: st. steel 304



SF₆ Gas Density Monitor, series EGD.357

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

DIN43650 A	IP65
M12 Plug	IP67
mPm plug	IP65
2m flying cable type	IP65

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



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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 : $\pm 0.6\%$
 Pressure at 20°C : $\pm 1.0\%$ FS
 Temperature : $\pm 1^\circ\text{C}$

¹ accuracy according to IEC 60770 - limit point adjustment including non-linearity, hysteresis as well as repeatability

Permissible load / R_L

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

Influence effects:

Supply: 0.05%FSO/10V
Longterm stability: $\leq \pm 0.5\%$ FS / year
Response time: <5ms

Thermal effects (Offset and Span) / Permissible temperatures

FS thermal error: $\pm 0.75\%$ FS @ 25°C, typical
Zero thermal error: $\pm 0.75\%$ 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

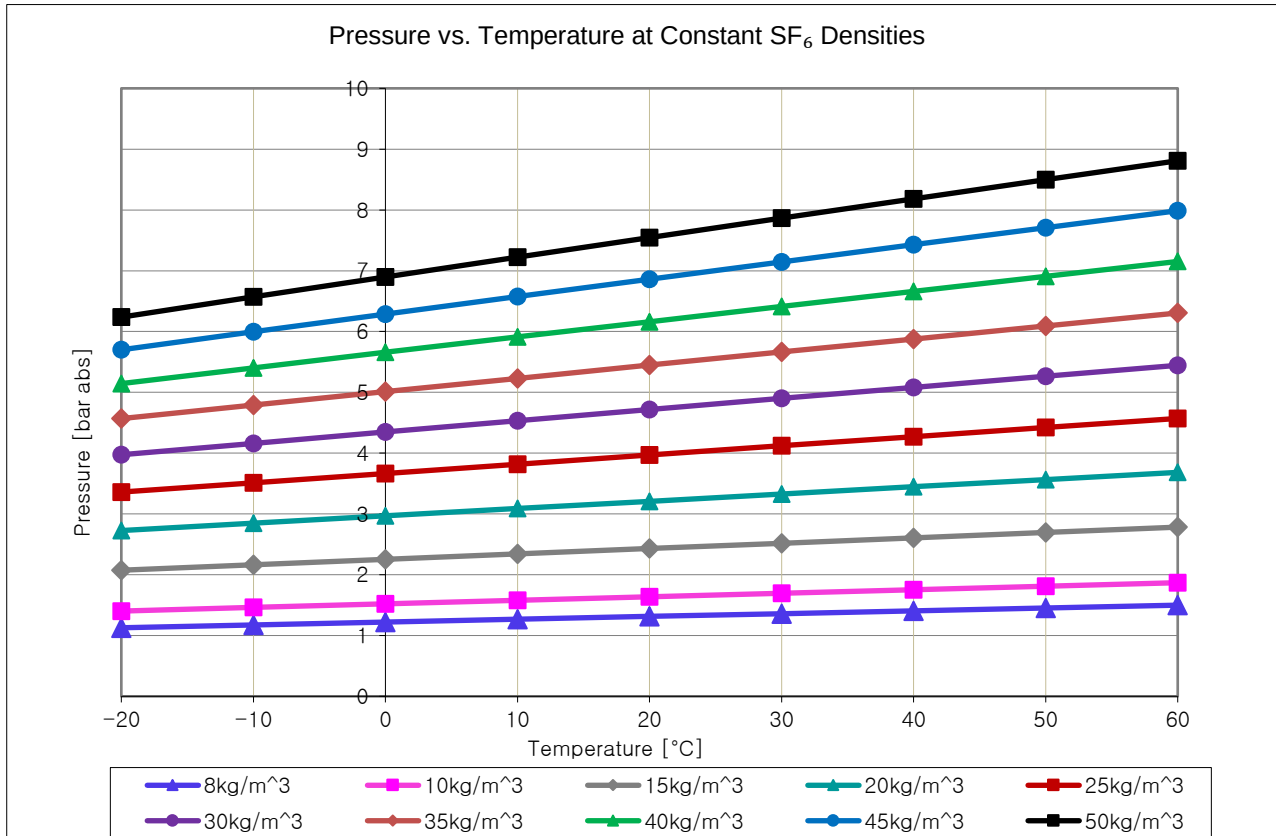
Electrical protection

Electromagnetic compatibility:

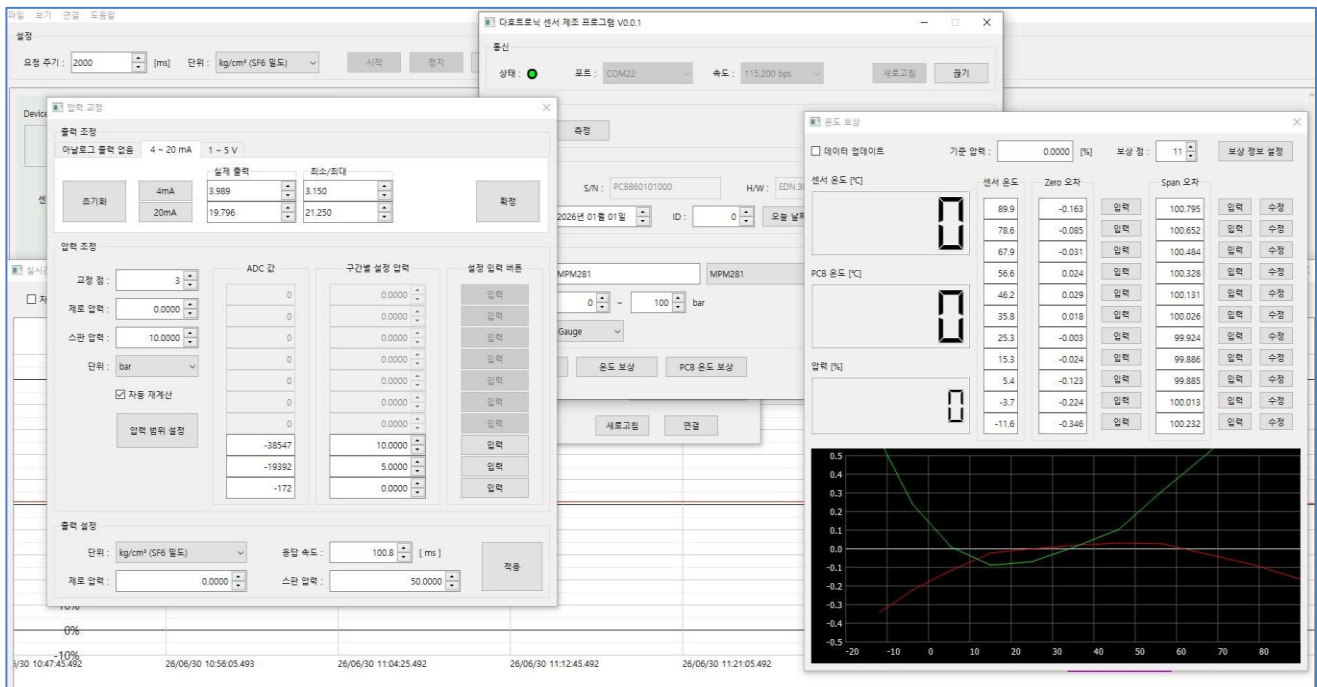
Emission and immunity according to
EN 61326-2-3:20B CCISPR II Group 1, Class A
EN IEC 61000-3-2:2019

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.357 · · · · · · B · option

Accuracy

A6	Density ±0.6%
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Pressure reference

PAA	Absolute
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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 / 24V, 3-wire system

Electrical connection

P	mPm plug
D	DIN 43650 A
M	M12 plug
MA	M12 plug, 90 Angle
C	2m flying cable

Process connection

G2	G 1/2" (PF 1/2")
G3	G 3/8" (PF 3/8")
G4	G 1/4" (PF 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
RYY	others on request

Option code

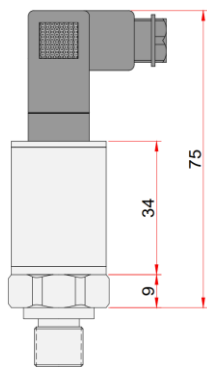
Code	Description
PAA	absolute pressure range [5...6 weeks delivery]
xL	x m cable extension (0 ₀ l: 5L = 5 m, 3L = 3 m)
T4	-40...+125 °C
AC25	Restrictor screw in socket hole
TP	St. steel tag plate, 60 x 20 x 0.5t
DMCC	Manufacture calibration certificate
KC	KOLAS Ilac-MRA calibration certificate

How to order

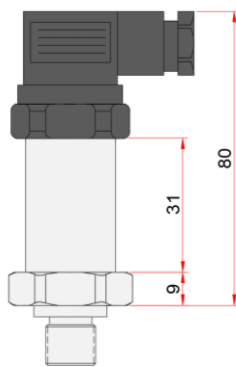
EGD.357.A6.PAA.O1.M.G2.BR35

EGD.357, 0.6%, 4...20mA, M12 plug, G 1/2", 0...16 bar(abs.)

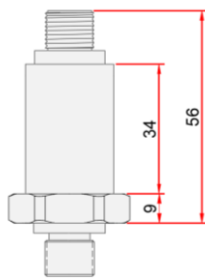
Outline drawing



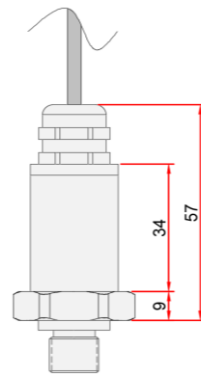
mPm plug type / IP65



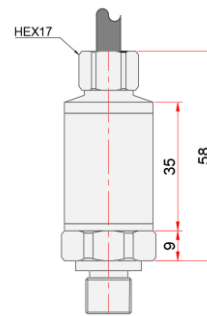
DIN 43650A type / IP65



M12 plug type / IP65

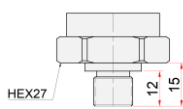


Cable gland type / IP67

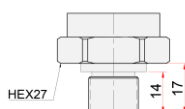


underwater plug / IP68

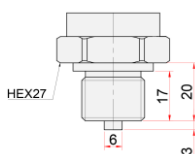
Process connection



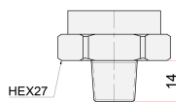
G1/4"
DIN EN ISO 1179-2



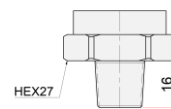
G3/8" A
DIN EN ISO 1179-2



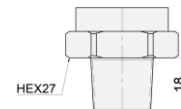
G1/2" A
EN 837-1



R1/4"
ISO 7



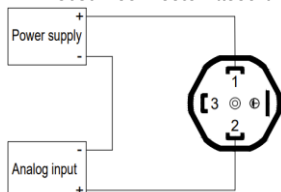
R3/8"
ISO 7



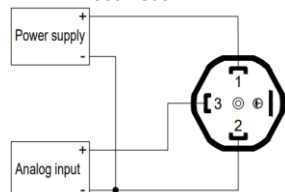
R1/2"
ISO 7

Pin assignment

DIN 43650A connector according to DIN EN 175301-803A



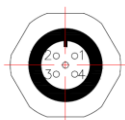
2-wire / current, 4...20mA



3-wire / voltage, 0...10V, 0...5V, 1...5V

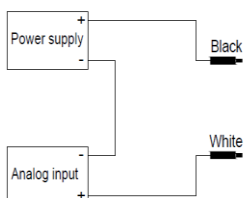
Pin No.	2-Wire	3-Wire
1	+Vcc	+Vcc
2	Output(mA)	GND
3		Output(VDC)

M12 x 1, 5-pin / male

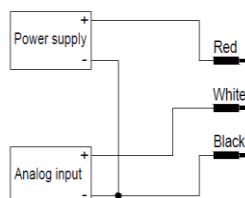


Pin No.	2-Wire	3-Wire
1	+Vcc	+Vcc
2	Output(mA)	GND
3		Output(VDC)
4		

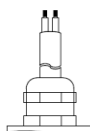
Flying leads with 2m cable



2-wire / current, 4...20mA



3-wire / voltage, 0...10V, 0...5V, 1...5V



	2-Wire	3-Wire
White	Output(mA)	Output(VDC)
Red		+Vcc
Black	+Vcc	GND

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