

Rotary sensor for measurement ranges up to 360° with ability to program ±15° steps.

Contactless Hall technology for almost infinite sensor life due to absence of wear on the sensing element.

Various configurations make the product easy to install on vehicles.

High IP protection level, resistance to shock and vibration, and high electromagnetic compatibility make these products suitable for many mobile hydraulics applications.

Developed to ensure a robust and high-performance solution for applications such as agricultural machines, construction machines, material handling equipments.

TECHNICAL DATA

Measurement range

360° rotation (different values on request programmable in steps of 15°)

Supply voltage

+5Vdc (only for 0.5...4.5Vdc output); +7...+36Vdc

Output signal

0...10V; 4...20mA; 0.5...4.5V (ratiometric with 5V supply); CANopen Interface

Electrical connections

AMP Superseal 6P 282108-1; DEUTSCH 6P DT04-6P

Resolution and speed of rotation

12 bit (analog output); 14 bit (CANopen output); 120 rpm max.

Linearity

<±0.5%

Working and coefficient temperature

-40°C ... +85°C (higher values on request); thermal drift < 50 ppm/°C

Vibrations

20g - 10 Hz ... 2000 Hz EN 60068-2-6

Shock

Impulsive on 3 axes; 50g 11 ms EN 60068-2-27

Electromagnetic compatibility

According to 2004/108/CE

Life

35 M operations (stroke ±75°)

IP Protection level

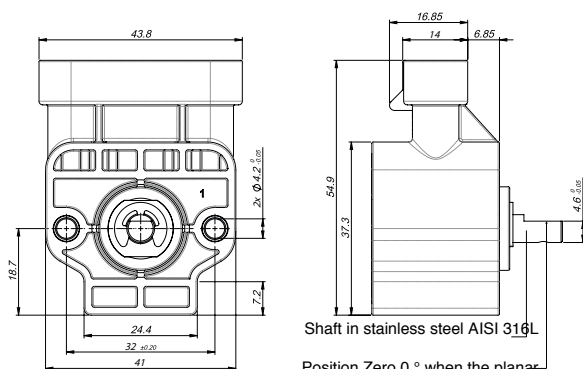
AMP IP67 (IPX9K mated with AMP282090-1); DEUTSCH IP68 (IPX9K mated with DT06-6S)

Housing material

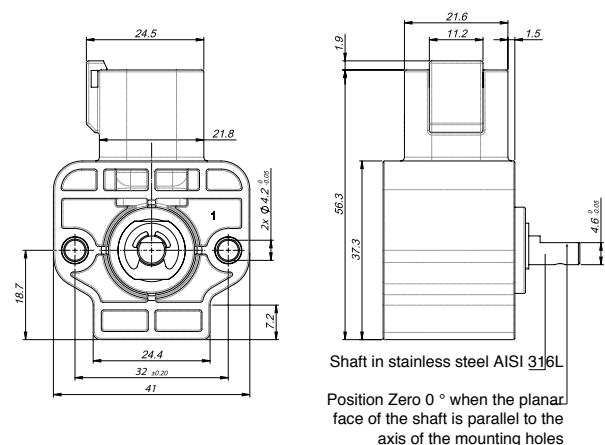
PBT

MECHANICAL DIMENSIONS

AMP VERSION

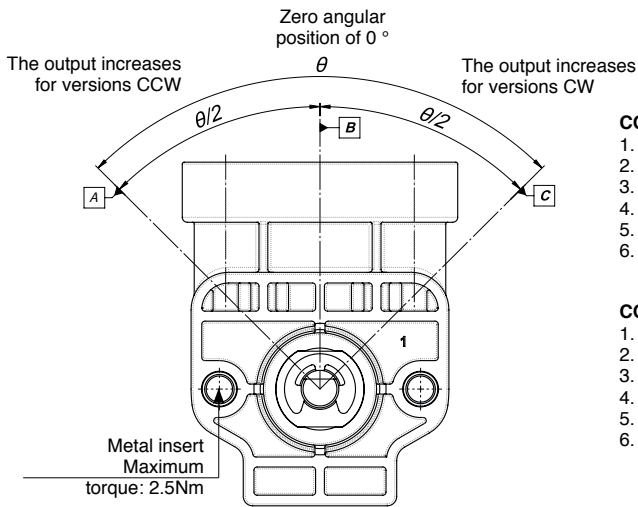


DEUTSCH VERSION



ELECTRICAL CONNECTIONS

AMP VERSION

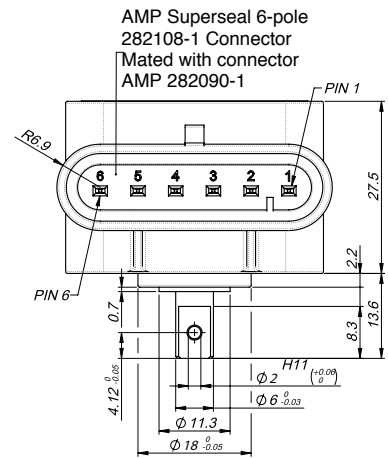


CONNECTIONS

1. GROUND 1
2. + SUPPLY 1
3. OUTPUT 1
4. GROUND 2
5. + SUPPLY 2
6. OUTPUT 2

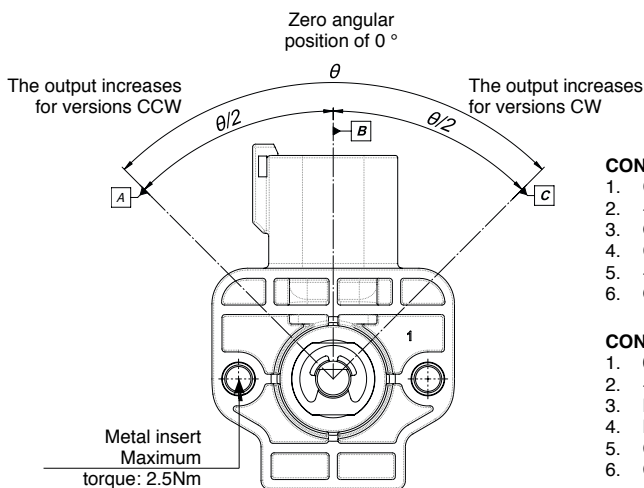
CONNECTIONS - CAN

1. 0V (GND)
2. + Vs (+9...+36 Vdc)
3. NC
4. NC
5. CAN-L
6. CAN-H



Ref.	CW Output	CCW Output
A	Output: 0.5Vdc	Output: 4.5Vdc
B	Zero angular position of 0°	Zero angular position of 0°
C	Output: 4.5Vdc	Output: 0.5Vdc

DEUTSCH VERSION

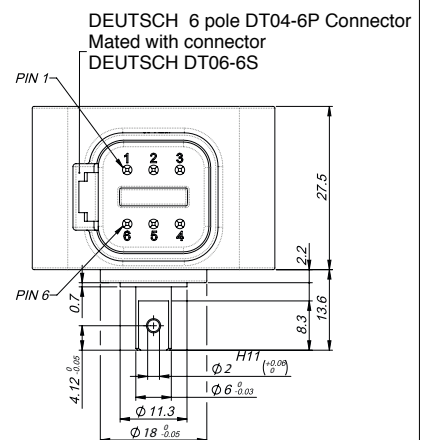


CONNECTIONS

1. GROUND 1
2. + SUPPLY 1
3. OUTPUT 1
4. GROUND 2
5. + SUPPLY 2
6. OUTPUT 2

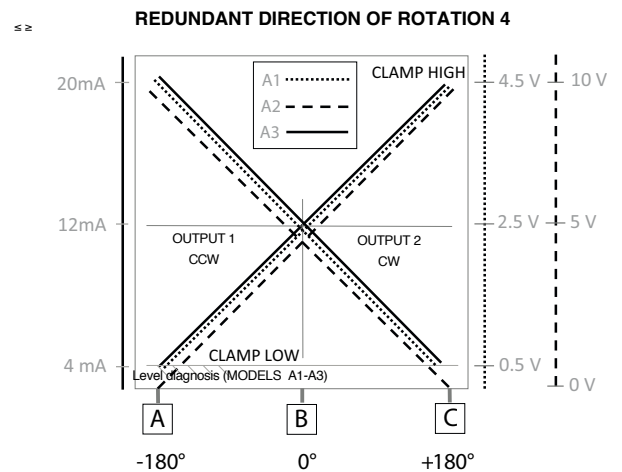
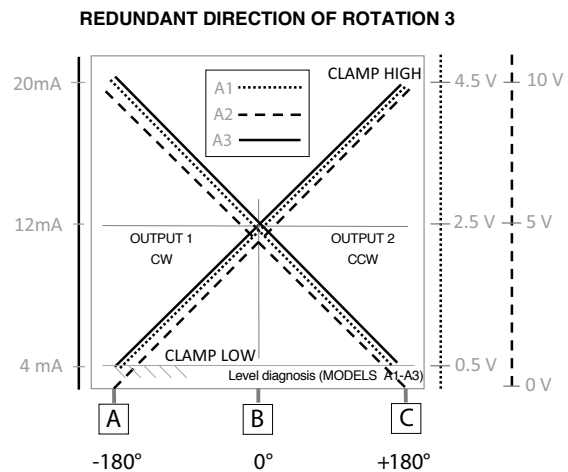
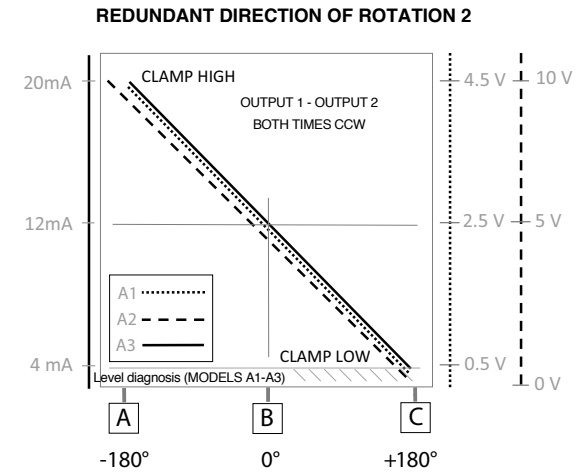
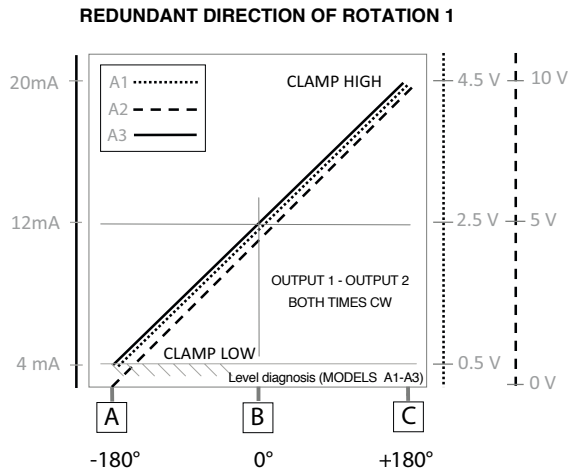
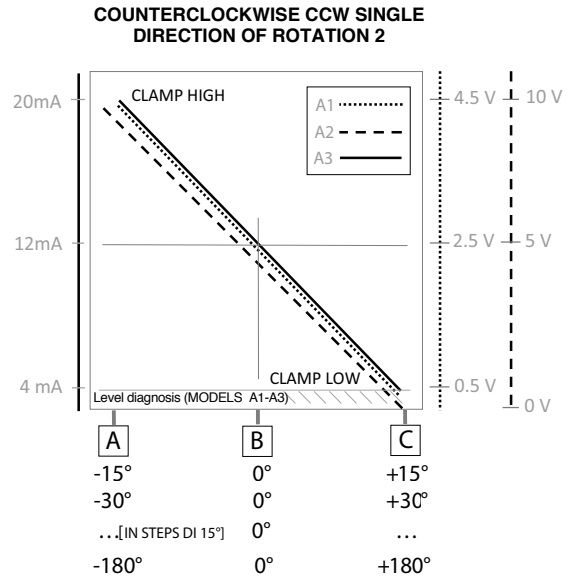
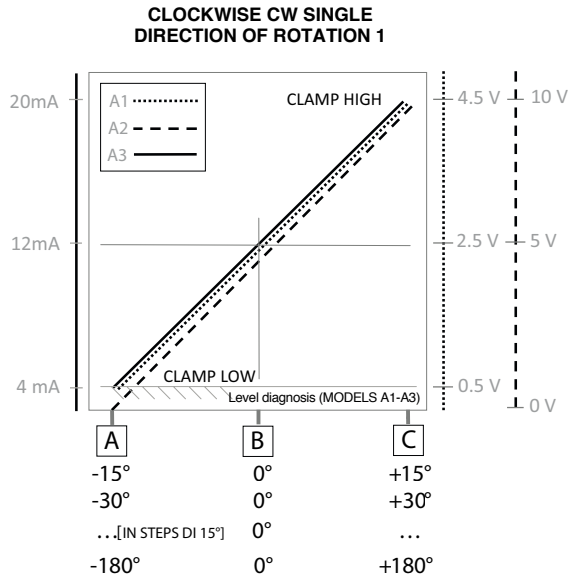
CONNECTIONS - CAN

1. 0V (GND)
2. + Vs (+9...+36 Vdc)
3. NC
4. NC
5. CAN-L
6. CAN-H



Ref.	CW Output	CCW Output
A	Output: 0.5Vdc	Output: 4.5Vdc
B	Zero angular position of 0°	Zero angular position of 0°
C	Output: 4.5Vdc	Output: 0.5Vdc

FUNCTIONS: SENSOR OUTPUT GRAPH



LOAD CONDITIONS

+0.5Vdc...+4.5 Vdc output with power +7...+36Vdc and +0...10Vdc output with power >15 +Vdc: it is recommended a load resistance > 100 KΩ

+0.5Vdc...+4.5 Vdc output with power +5 Vdc: it is recommended a load resistance > 10 KΩ

+4...20 mA output with power < +15 Vdc: the maximum load resistance is admissible 200Ω

+4...20 mA output with power >15 +Vdc: the maximum load resistance is admissible 500Ω

ORDERING CODE

ELECTRICAL CONNECTIONS

AMP Superseal 6P connector output	A
Deutsch 6P connector output	D

CIRCUIT TYPE

Single	S
Redundant (only for analog outputs)	R

ANGLE/CHANNEL 1 (output for single channel)

angular measuring range (indicate) (programmable $\pm 15^\circ$)	XXX
--	------------

ANGLE/CHANNEL 2

angular measuring range (indicate) (programmable $\pm 15^\circ$)	XXX
--	------------

SUPPLY VOLTAGE

+5Vdc (only for 0.5...4.5Vdc output)	L
+7...+36Vdc	H

OUTPUT TYPE

+0.5...+4.5Vdc output (ratiometric if powered at +5Vdc)	A1
0...+10Vdc output (supply >15 Vdc)	A2
4...20mA output (powered at +7...36Vdc)	A3
CANopen output (powered at +7...36Vdc)	C1

ROTATION DIRECTION

Clockwise CW/ both clockwise CW	1
Counterclockwise CCW/ both counterclockwise CCW	2
CH1-CW, CH2-CCW (redundant only)	3
CH1-CCW, CH2-CW (redundant only)	4

ACTUATOR

Shaft	A
-------	----------

CERTIFICATE

0	No certificate attached
L	Linearity curve to be attached

ACCESSORIES

X	No accessories
----------	----------------

Example of description

GRA	A	S	045	XXX	H	A3	1	A	L	000	X	0
	AMP Superseal 6P	Single	Angle $\pm 45^\circ$		Supply +7...36Vdc	4...20mA Output	CW clockwise	Shaft	Linearity curve attached	Special execution	no accessories	ND

GEFRAN spa reserves the right to make any kind of design or functional modification at any moment without prior notice

GEFRAN spa

via Sebina, 74

25050 PROVAGLIO D'ISEO (BS) - ITALIA

tel. 0309888.1 - fax. 0309839063

Internet: <http://www.gefran.com>

GEFRAN

DTS_GRA_08-2015_ENG