

GEFRAN

GSH-S (from 10000 up to 12500 mm)

HALL-EFFECT WIRE POSITION TRANSDUCER
(CONTACTLESS)



Contactless linear sensor - HALL EFFECT technology - for almost infinite life of the primary element.

Excellent performance, high IP rating, shock and vibration resistance guarantee **sensor performance** in typical mobile hydraulics applications.

TECHNICAL SPECIFICATIONS

Measurement Range (FS)

Strokes 10000 mm - 12500 mm

Supply voltage

+10...36 V DC (see ordering code for right supply voltage)

Output type

Analog output (voltage): 0.5...4.5 V; 0...10 V
Analog output (current): 4...20 mA
Digital output: CANopen

Electrical connections

M12 connector output, cable output

Linearity factory verification@ 25°C

< ±1% FS

Resolution

Analog output: 12 bit
Digital output: 0.1 mm

Working temperature

-40°C...+85°C

Vibrations

20g between 10 Hz ... 2000 Hz IEC 60068-2-6

Shock

Pulse on 3 axes; 50g 11 ms IEC 60068-2-27

Electromagnetic compatibility

2014/30/EU Electromagnetic Compatibility (EMC)

IP Protection Level

IP67 with female homologated connector mounted, tightening torque 0.6Nm + low strength threadlocker (GSH-M/N/O/P M12 connector version)
IP67 (GSH-F cable-PUR version)

Constructive material of transducer body and wire

Transducer: PBT
Wire: AISI316 stainless steel, Ø0.85mm nylon coating

Typical speed

max 2m/s, typical 1m/s

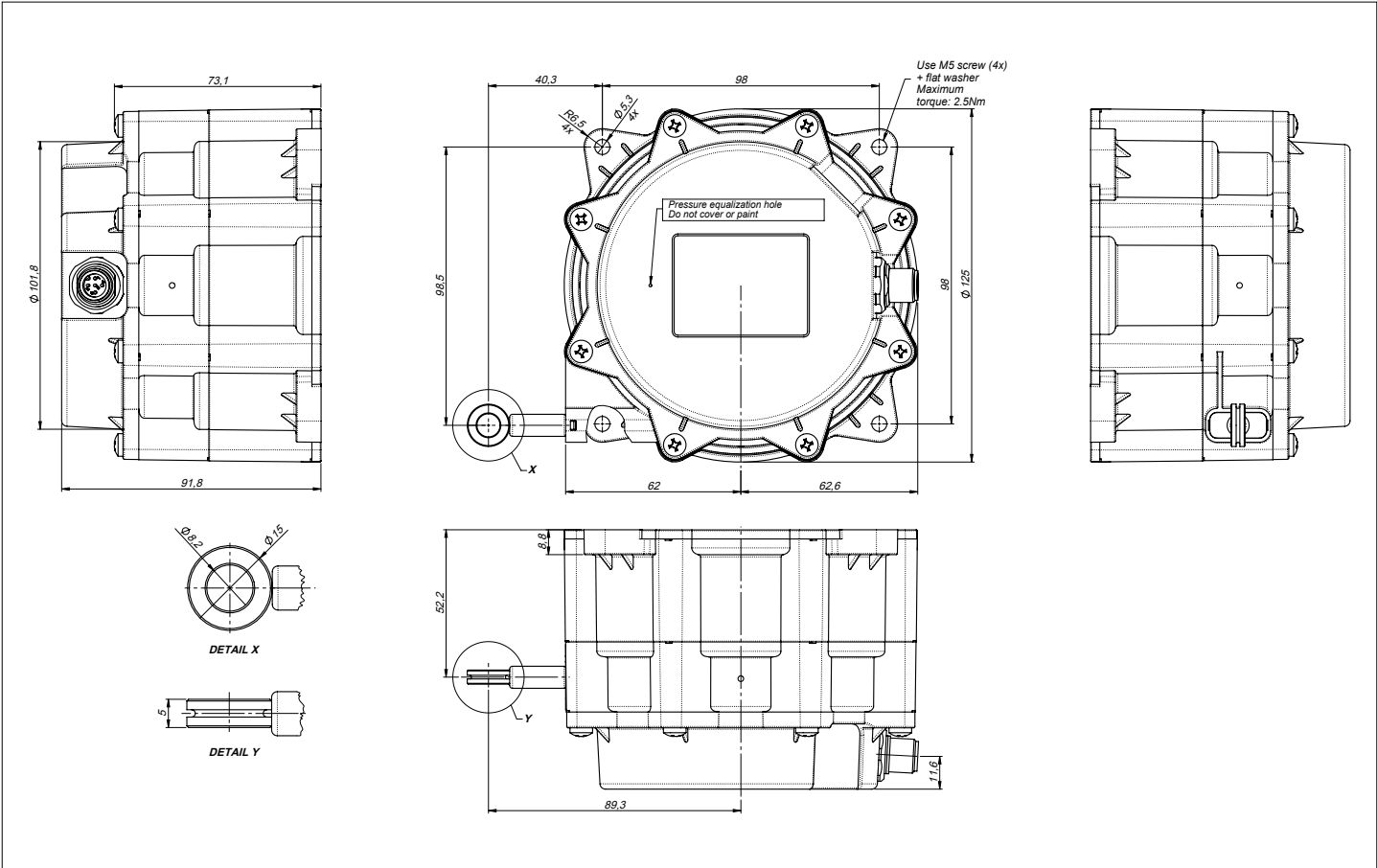
Typical acceleration

1g

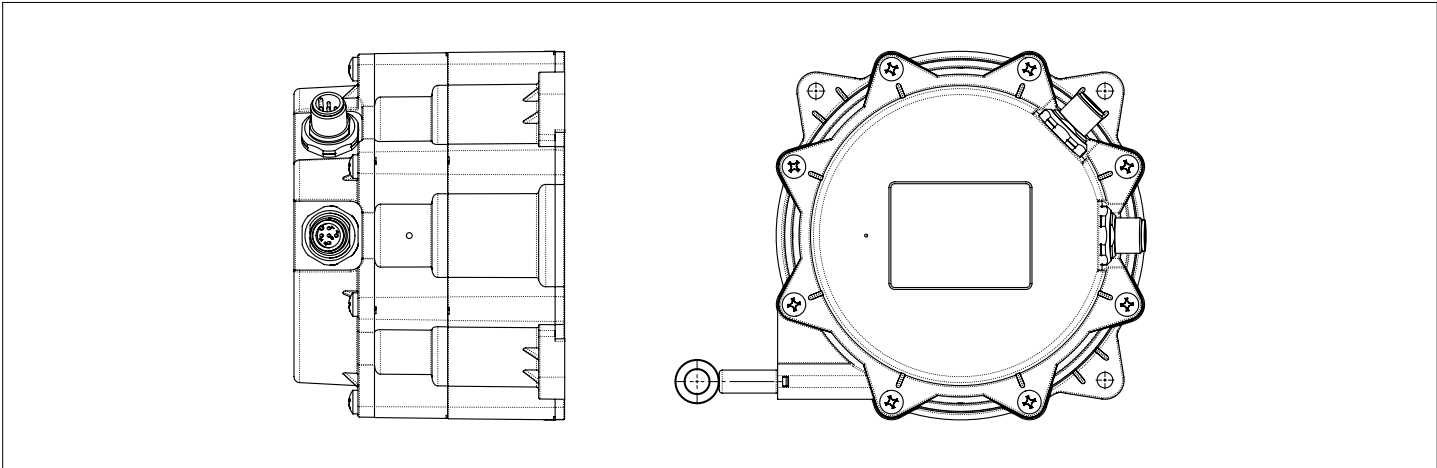
Weight

1.5 kg

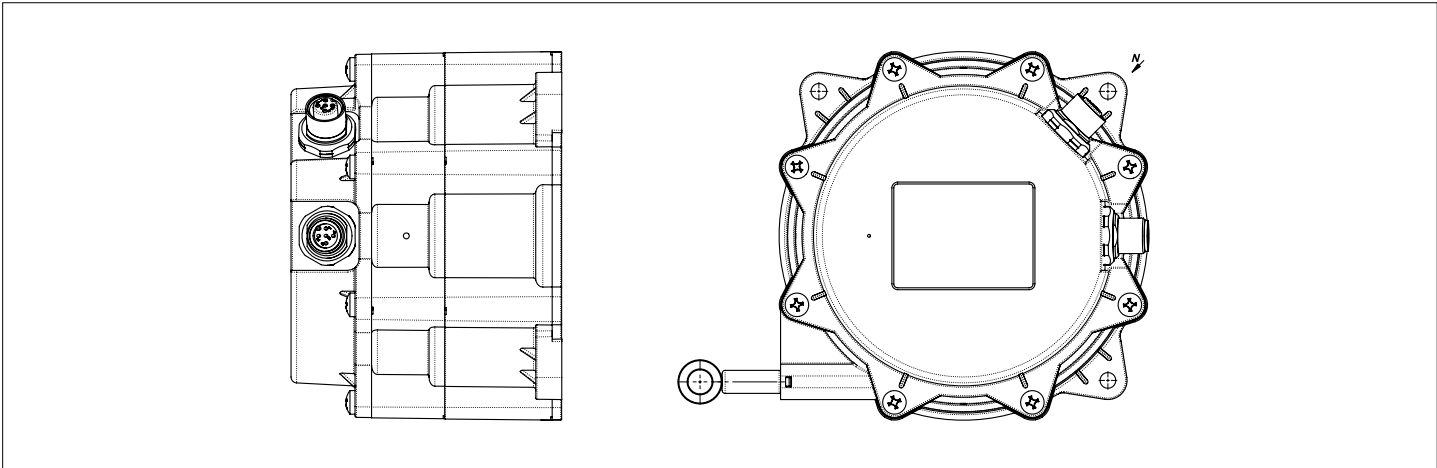
MECHANICAL DIMENSIONS - SINGLE / REDUNDANT / HALF - M12 1x VERSION



MECHANICAL DIMENSIONS - REDUNDANT - M12 2x VERSION



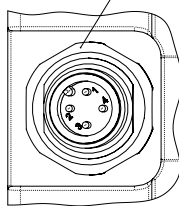
MECHANICAL DIMENSIONS - IN-OUT (S/R/H) M12 5P CAN VERSION



ELECTRICAL CONNECTIONS - M12 VERSION

SINGLE VERSION M-1-S
REDUNDANT VERSION M-1-R M-2-R

M12x1 4-pin
male connector



ANALOG OUTPUT CONNECTIONS

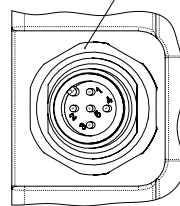
1. +SUPPLY
2. GROUND
3. OUTPUT
4. n.c.

CAN CONNECTIONS

1. +SUPPLY
2. GROUND
3. CAN-H
4. CAN-L

SINGLE VERSION N-1-S
REDUNDANT VERSION N-1-R N-2-R

M12x1 5-pin
male connector



ANALOG OUTPUT CONNECTIONS

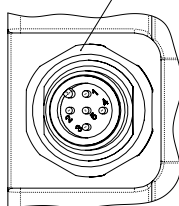
1. +SUPPLY
2. n.c.
3. GROUND
4. OUTPUT
5. n.c.

CAN CONNECTIONS

1. n.c.
2. +SUPPLY
3. GROUND
4. CAN-H
5. CAN-L

SINGLE VERSION P-1-S
REDUNDANT VERSION P-1-R P-2-R
HALF REDUNDANT VERSION P-1-H

M12x1 5-pin
male connector

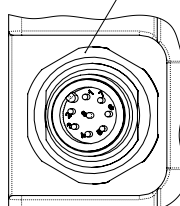


CAN CONNECTIONS

1. GROUND
2. +SUPPLY
3. GROUND
4. CAN-H
5. CAN-L

REDUNDANT VERSION O-1-R

M12x1 8-pin
male connector



ANALOG OUTPUT CONNECTIONS

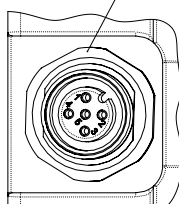
1. + SUPPLY CH1
2. GROUND CH1
3. OUTPUT CH1
4. n.c.
5. + SUPPLY CH2
6. GROUND CH2
7. OUTPUT CH2
8. n.c.

CAN CONNECTIONS

1. + SUPPLY CH1
2. GROUND CH1
3. CAN-H CH1
4. CAN-L CH1
5. + SUPPLY CH2
6. GROUND CH2
7. CAN-H CH2
8. CAN-L CH2

SINGLE/REDUNDANT/HALF-REDUNDANT IN-OUT VERSION P-3-(S/R/H)

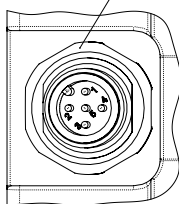
M12x1 5-pin
female connector



CAN CONNECTIONS

1. GROUND
2. +SUPPLY
3. GROUND
4. CAN-H
5. CAN-L

M12x1 5-pin
male connector



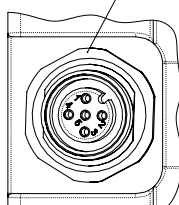
CAN CONNECTIONS

1. GROUND
2. +SUPPLY
3. GROUND
4. CAN-H
5. CAN-L

VIEW FROM N

SINGLE/REDUNDANT/HALF-REDUNDANT IN-OUT VERSION N-3-(S/R/H)

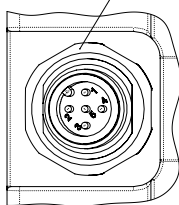
M12x1 5-pin
female connector



CAN CONNECTIONS

1. FLOATING
2. +SUPPLY
3. GROUND
4. CAN-H
5. CAN-L

M12x1 5-pin
male connector



CAN CONNECTIONS

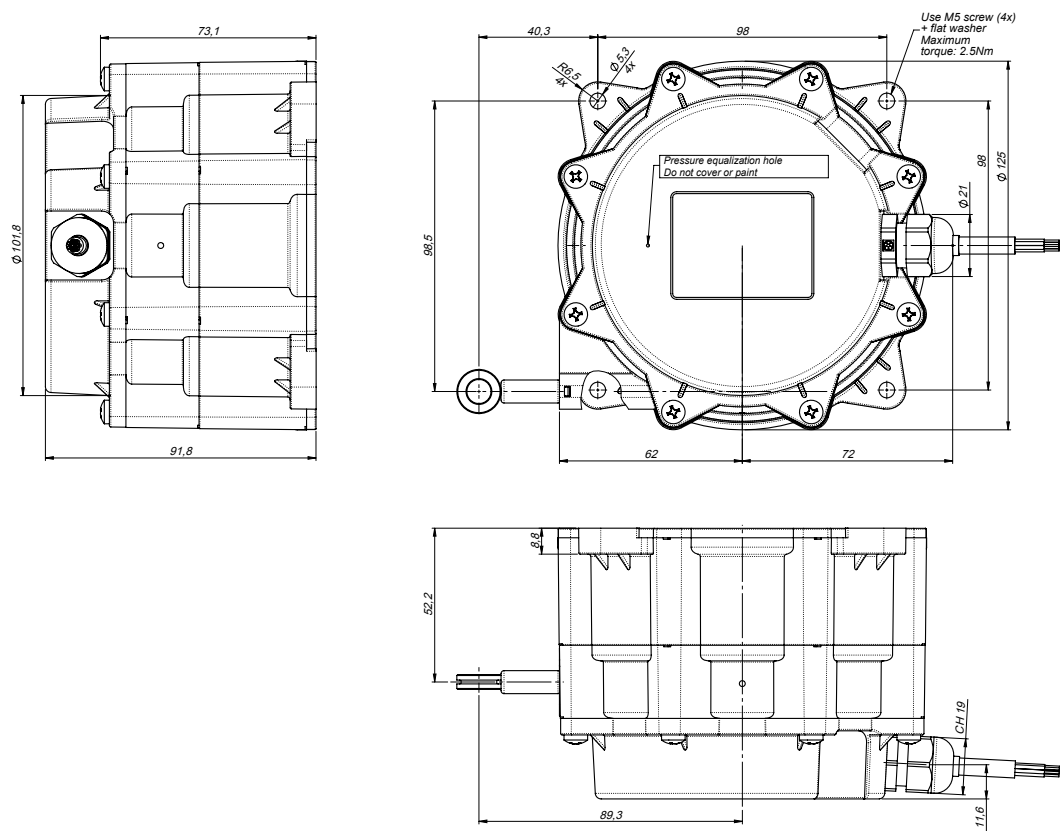
1. FLOATING
2. +SUPPLY
3. GROUND
4. CAN-H
5. CAN-L

PIN 1 male and female are internally connected

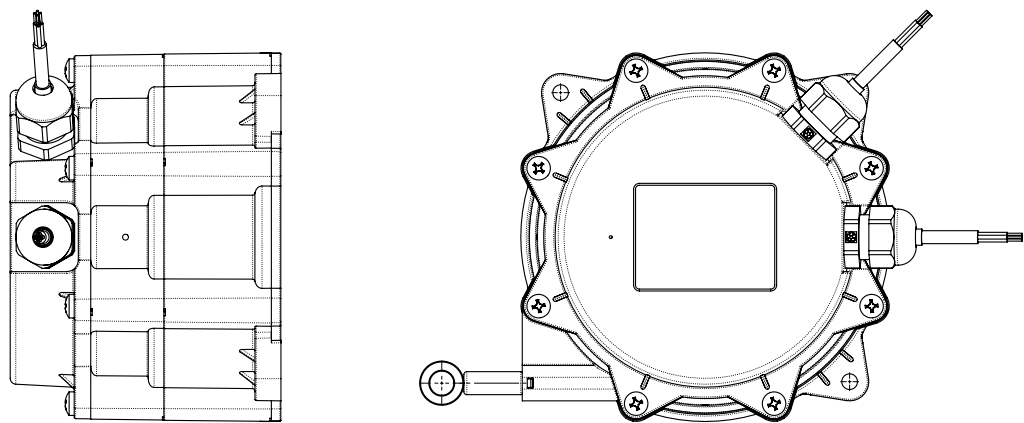
VIEW FROM N

ITEMS MARKED "n.c." MUST NOT BE CONNECTED

MECHANICAL DIMENSIONS - CABLE VERSION



MECHANICAL DIMENSIONS - IN-OUT (S/R/H) 2x CABLE CAN VERSION



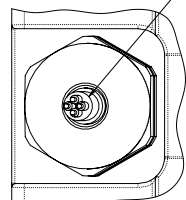
ELECTRICAL CONNECTION - CABLE VERSION

SINGLE VERSION
IN-OUT VERSION

F-0-(S/H)
F-3-(S/R/H)

REDUNDANT VERSION F-0-R

IEC 60228 Cable
4 pole 0.34mm²
PUR OD 4.4mm



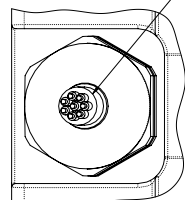
ANALOG OUTPUT
CONNECTIONS

RED	+SUPPLY
BLACK	GROUND
BLUE	OUTPUT
WHITE	n.c

CAN
CONNECTIONS

RED	+SUPPLY
BLACK	GROUND
BLUE	CAN-H
WHITE	CAN-L

IEC 60228 Cable
8 pole 0.34mm²
PUR OD 5.8mm



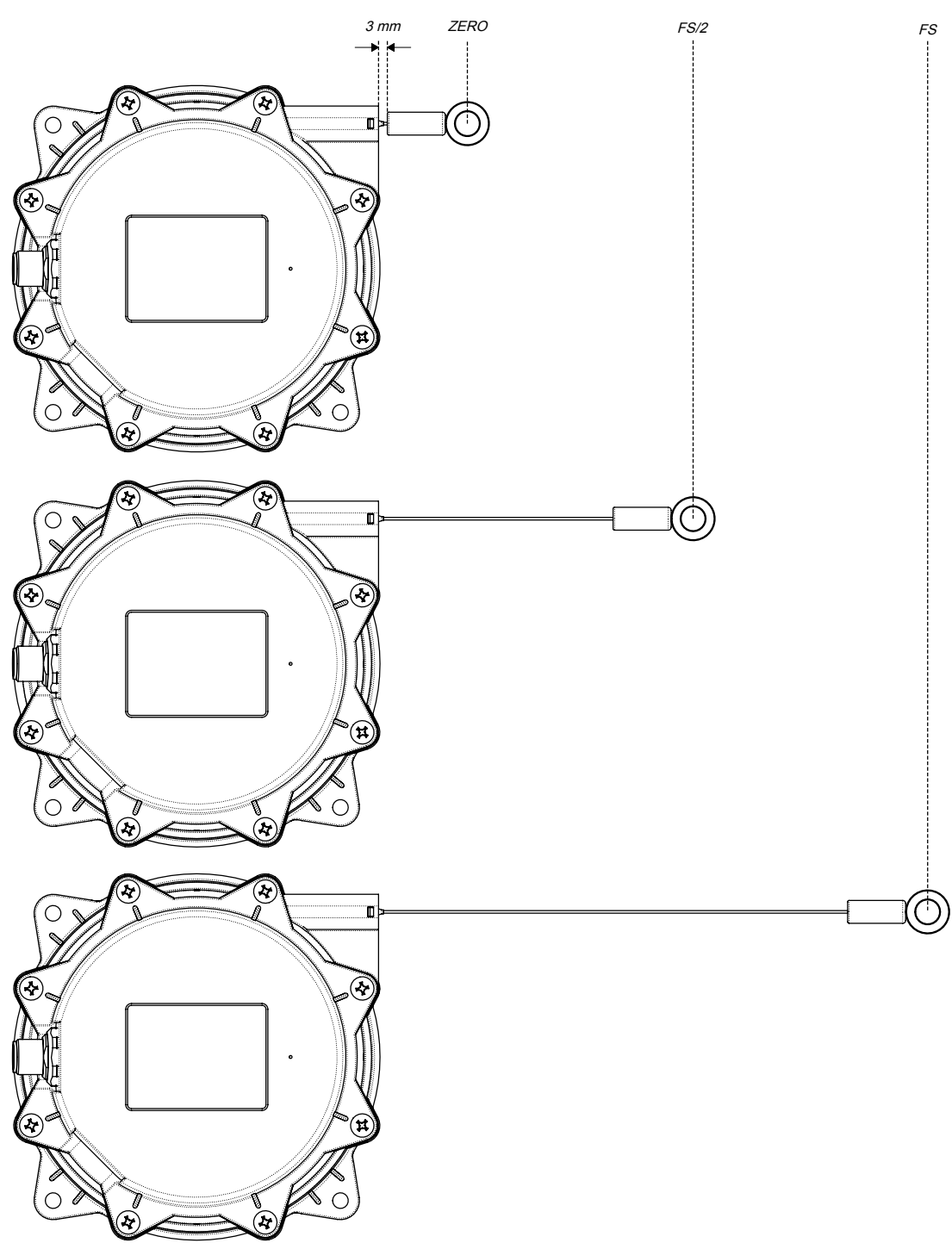
ANALOG OUTPUT
CONNECTIONS

WHITE	+ SUPPLY CH1
BROWN	GROUND CH1
GREEN	OUT CH1
YELLOW	n.c.
GREY	+ SUPPLY CH2
PINK	GROUND CH2
BLUE	OUT CH2
RED	n.c

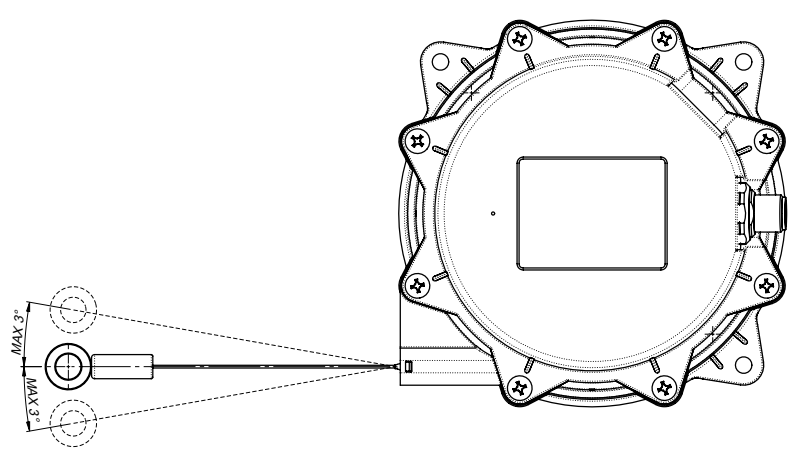
CAN
CONNECTIONS

WHITE	+ SUPPLY CH1
BROWN	GROUND CH1
GREEN	CAN-H CH1
YELLOW	CAN-L CH1
GREY	+ SUPPLY CH2
PINK	GROUND CH2
BLUE	CAN-H CH2
RED	CAN-L CH2

SENSOR OUTPUT



INSTALLATION



ORDERING CODE

TRANSDUCER TYPE	
Wire transducer	S

ELECTRICAL CONNECTIONS	
M12 4P connector	M
M12 5P connector (CAN pin 1 n.c.)	N
M12 8P connector (only for redundant versions)	O
M12 5P connector (CAN pin 1 GROUND)	P
Cable output	F

CONNECTOR OPTIONS	
Cable output	0
1 male M12 4P or M12 5P connector (single/redundant version analog and CANopen output) or 1 male M12 8P connector (only for redundant version)	1
2 male M12 4P connectors (redundant version) or 2 male M12 5P connectors (redundant version)	2
1 male M12 5P connector and 1 female M12 5P connector or cable output (only for IN-OUT CANopen version)	3

CIRCUIT TYPE	
Single	S
Redundant	R
Half-redundant (only for CANopen output)	H

MEASUREMENT RANGE	
10000 mm	100C
12500 mm	125C

SUPPLY VOLTAGE	
+10...36 V DC	H

OUTPUT TYPE	
0,5...4,5 V (powered at +10...36 V DC)	A1
0...10 V (powered at +11...36 V DC)	A2
4...20 mA (powered at +10...36 V DC)	A3
CANopen (powered at +10...36 V DC)	C1

CERTIFICATES	
0	No certificate enclosed
L	Linearity curve enclosed

ACCESSORIES	
X	No accessories
C	CON293 : 4-pin female mating connector M12x1; IP67 protection degree
D	CON469 : 8-pin female mating connector M12x1; IP67 protection degree
E	CON031 : 5-pin female mating connector M12x1; IP67 protection degree

CABLE LENGTH	
10	1 m cable
20	2 m cable
30	3 m cable
50	5 m cable
80	8 m cable
A0	10 m cable
.....	other lengths on request

Example of description: **GSHSN1S125CHC1 0000X00**

GSH	S	N	1	S	125C	H	C1	0	000	X	ND
wire transducer		M12 5-pole connector	1xM12 5P connector	Single	12500mm stroke	+10...36 V DC	CANopen output	No certificate attached	Special execution	No accessories	00

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

GEFRAN

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