



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.

The **reduced dimension** (65mm height) make it suitable for those applications where limited spaces are available for sensor installation.

TECHNICAL SPECIFICATIONS

Measurement Range

strokes 1.800mm - 2.300mm - 3.300mm - 4.300mm - 4.800mm - 5.300mm - 6.300mm - 7.300mm - 8.000mm - 8.300mm

Supply voltage

+10...36Vdc

Output signal

0.5...4.5Vdc; 0...10Vdc; 4...20mA; CANopen output

Electrical connections

M12 connector output, cable output

Linearity factory verification@ 25°C

< ± 0.5% FS

Long term repeatability

< ±3% FS (for 1.800mm, 2.300mm, 3.300 mm)

< ±2% FS (for 4.300mm, 4.800 mmm, 5.300 mm, 6.300 mm, 7.300 mm, 8.000 mm, 8.300 mm)

Resolution

12 bit (analog output)

0.1 mm (CANopen output)

Working temperature

-40°C...+85°C

Vibrations

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

Shock

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

Electromagnetic compatibility

2014/30/EU Electromagnetic Compatibility (EMC)

Life cycles

500.000 max speed 1m/s acc. max 0.5g; 250.000 max speed 2 m/s acc. max 1g

Typical speed

max 2m/s, typical 1m/s

Typical acceleration

1g

IP Protection Level

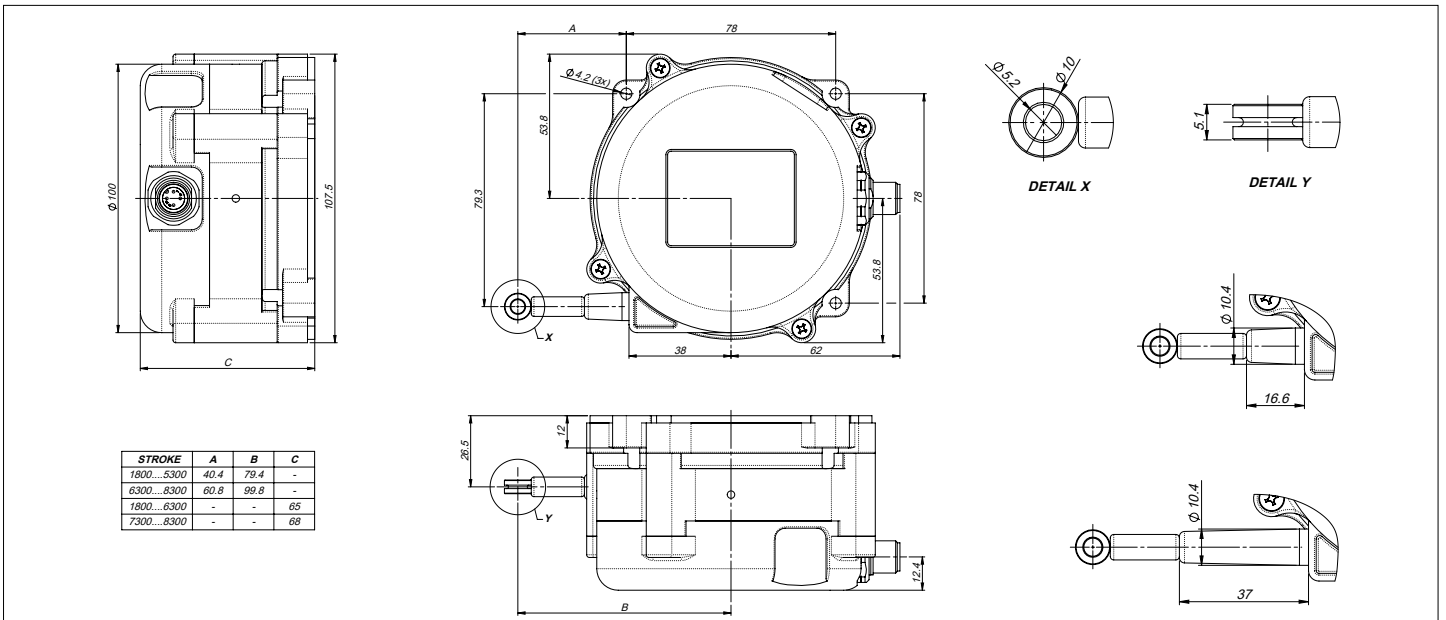
IP67 with female homologated connector mounted, tightening torque 0.6Nm + low strenght threadlocker (GSH-M/N/O M12 connector version) IP67 (GSH-F cable-PUR version)

Constructive material of transducer body and wire

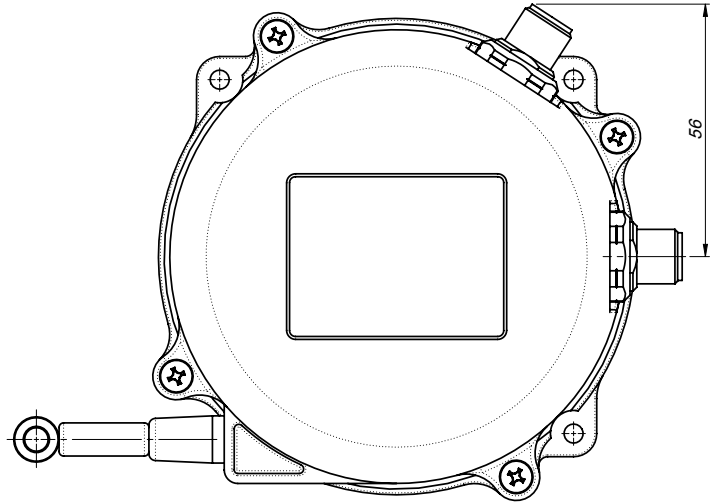
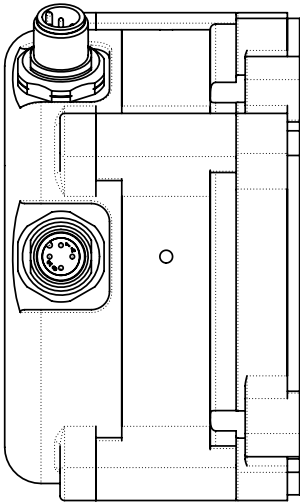
Transducer: PBT

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

MECHANICAL DIMENSIONS - SINGLE/REDUNDANT - M12 1x VERSION

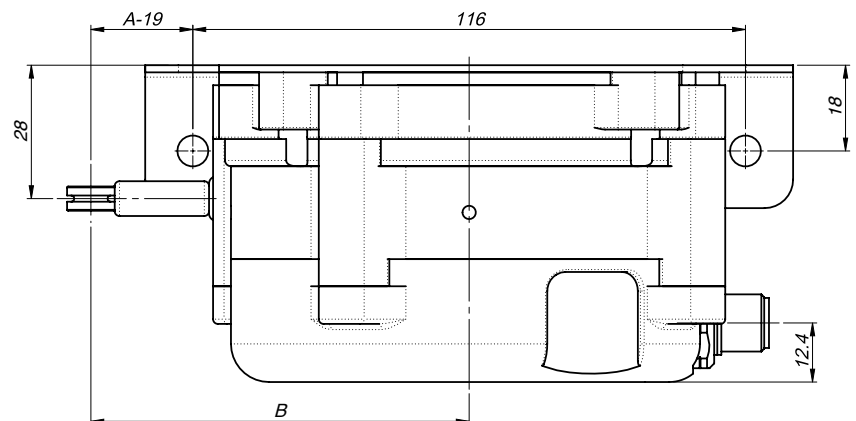
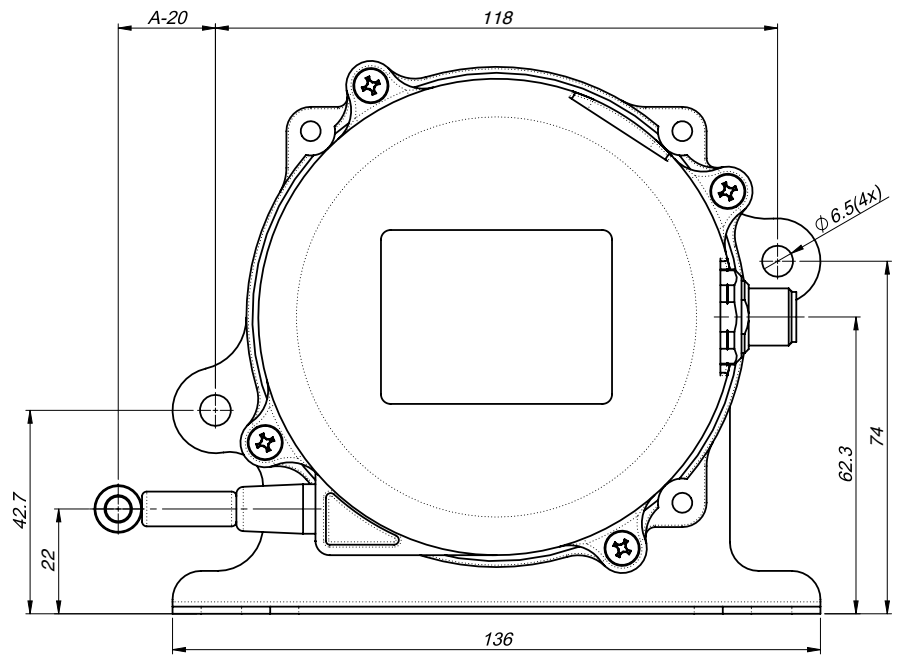
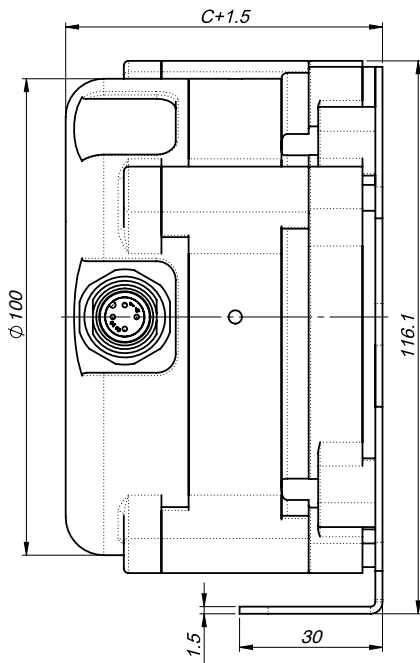


MECHANICAL DIMENSIONS - REDUNDANT - M12 2x VERSION



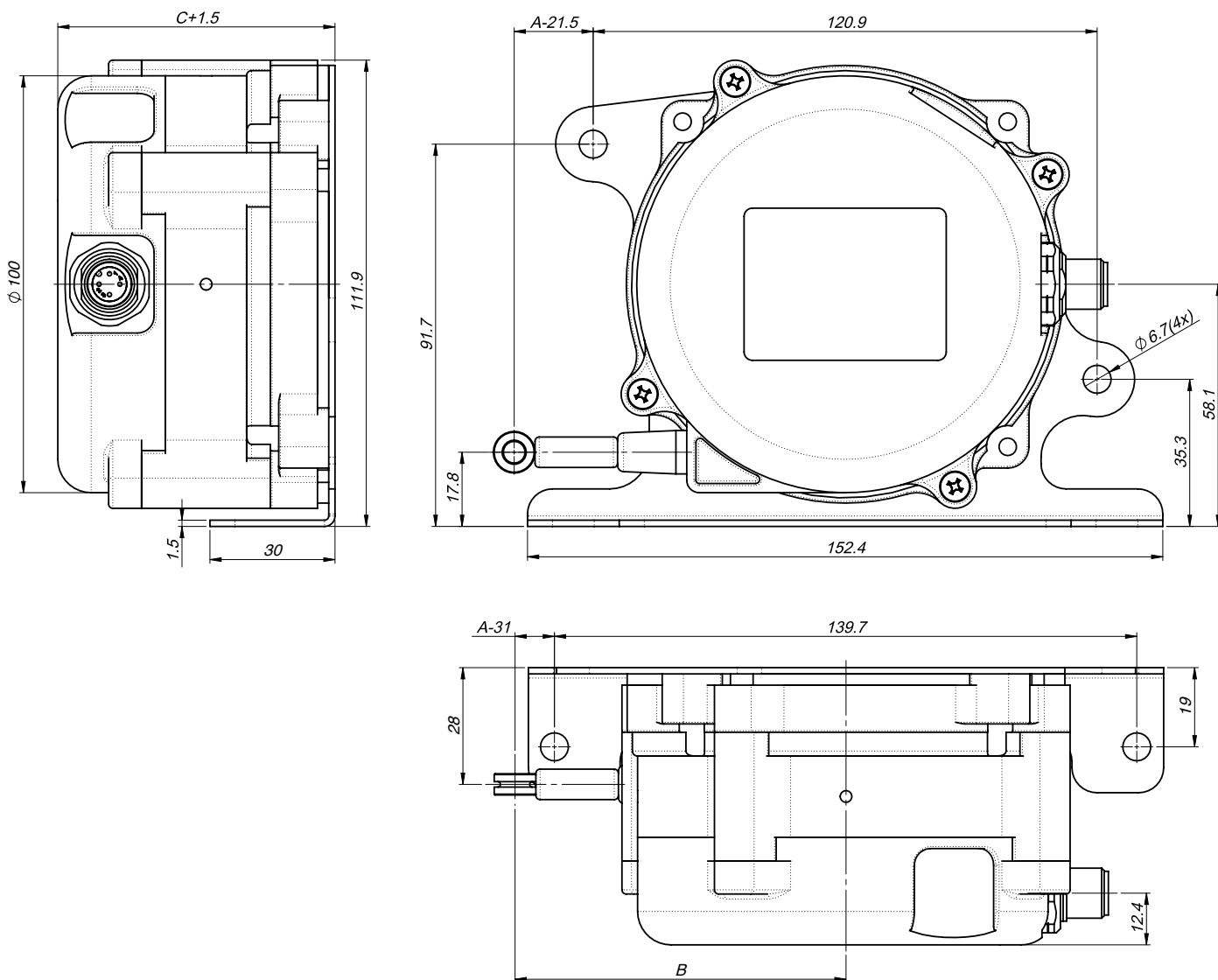
FIXING FLANGES (optional accessories to order)

FIXING FLANGE MODEL A - FLA033 (optional)

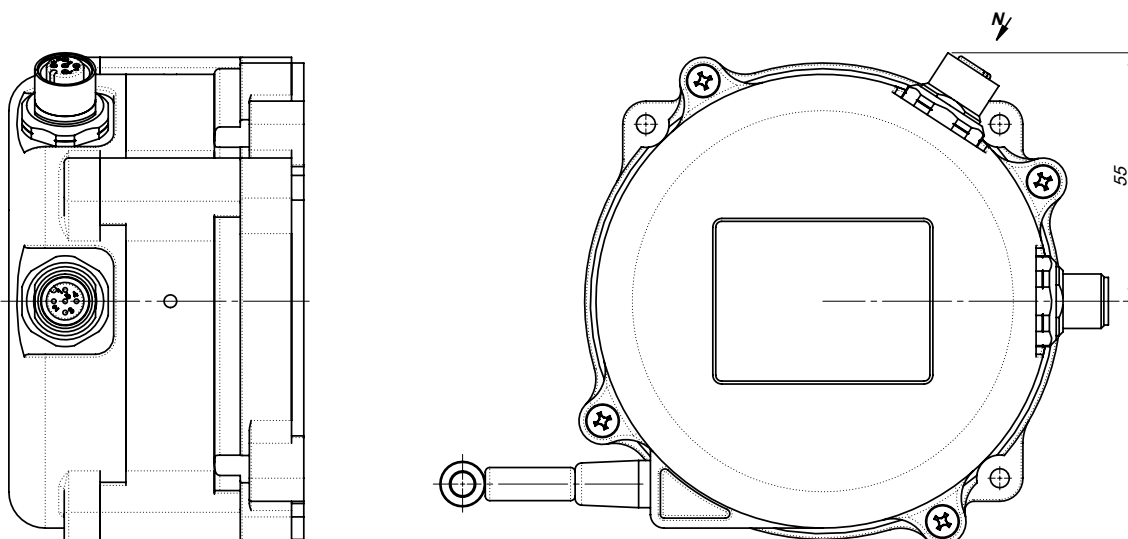


FIXING FLANGES (optional accessories to order)

FIXING FLANGE MODEL B - FLA034 (optional)



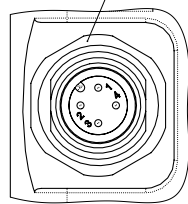
MECHANICAL DIMENSIONS - IN-OUT - M12 VERSION



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

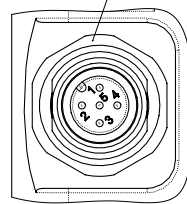
1. +SUPPLY
2. GROUND
3. OUTPUT
4. n.c.

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

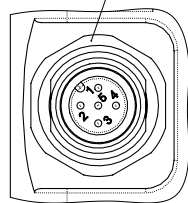
1. GROUND
2. +SUPPLY
3. OUTPUT
4. n.c.
5. n.c.

CAN CONNECTIONS

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

HALF-REDUNDANT VERSION N-1-H

M12x1 5-pin male connector

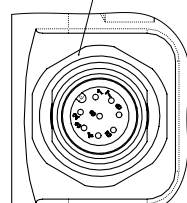


CAN CONNECTIONS

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

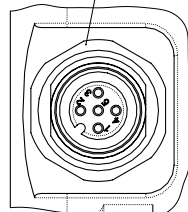
1. + SUPPLY CH1
2. GROUND CH1
3. OUTPUT CH1
4. n.c.
5. + SUPPLY CH2
6. GROUND CH2
7. OUTPUT CH2
8. n.c.

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 N-3-(S/R/H)

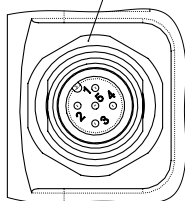
M12x1 5-pin female connector



CAN CONNECTIONS

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

M12x1 5-pin male connector



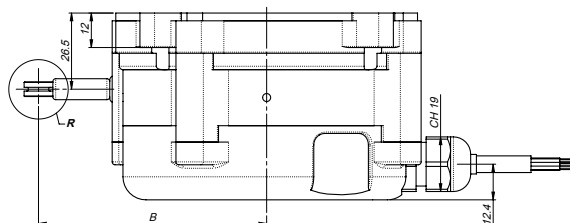
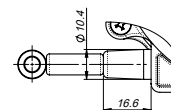
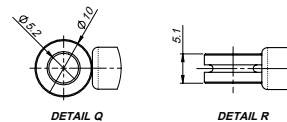
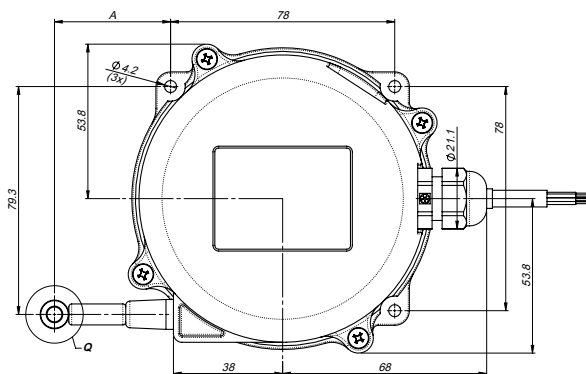
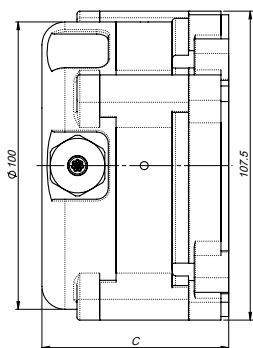
CAN CONNECTIONS

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

VIEW FROM N

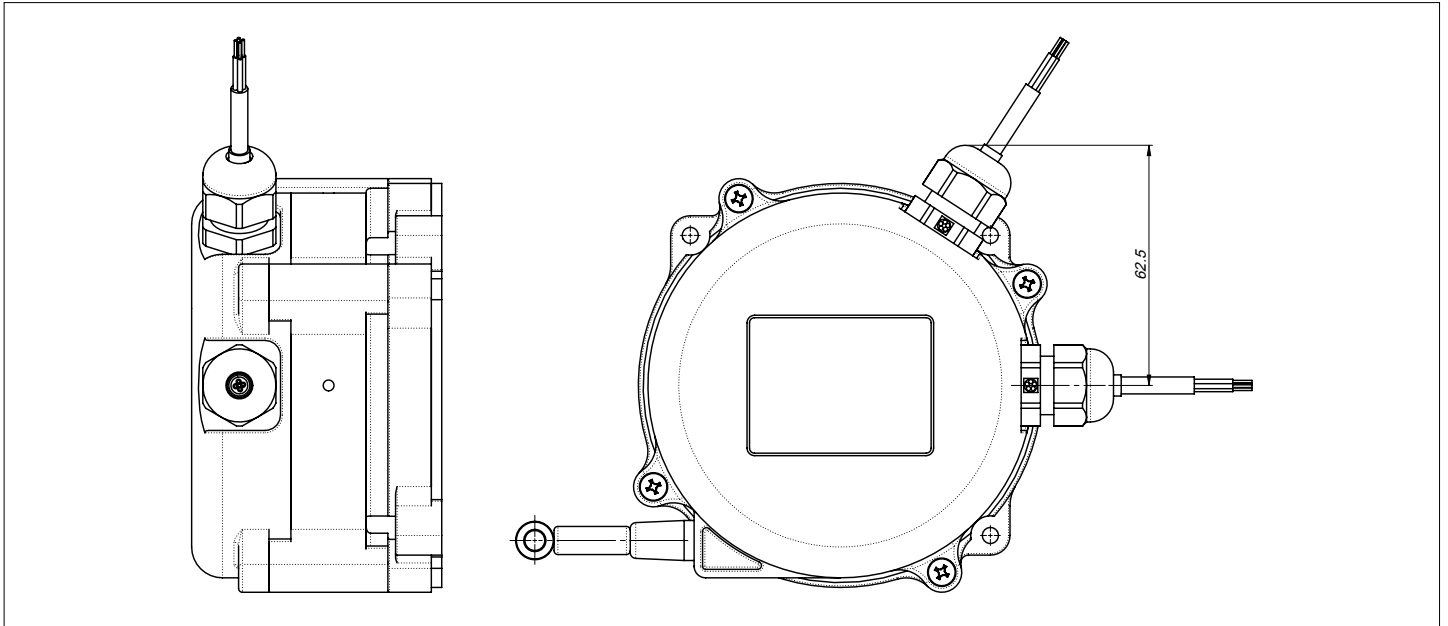
ITEMS MARKED "n.c." MUST NOT BE CONNECTED

MECHANICAL DIMENSIONS - SINGLE / REDUNDANT - CABLE VERSION



STROKE	A	B	C
1800...5300	40.4	79.4	-
6300...8300	60.8	99.8	-
1800...6300	-	-	65
7300...8300	-	-	68

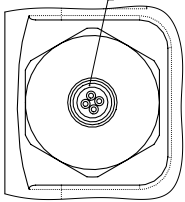
MECHANICAL DIMENSIONS - REDUNDANT - 2x CABLE VERSION



ELECTRICAL CONNECTION - CABLE VERSION

SINGLE VERSION F-S

IEC 60228 Cable
4 pole 0.34mm²
PUR OD 4.4mm



ANALOG OUTPUT CONNECTIONS

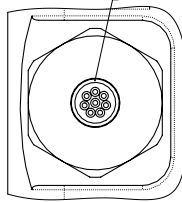
RED	+SUPPLY
BLACK	GROUND
BLUE	OUTPUT
WHITE	n.c

CAN CONNECTIONS

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

REDUNDANT VERSION F-R

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

ORDERING CODE

GSH - HALL-EFFECT WIRE POSITION TRANSDUCER

TRANSDUCER TYPE	
Wire transducer	S

ELECTRICAL CONNECTIONS	
M12 4P connector	M
M12 5P connector	N
M12 8P connector (only for redundant versions)	O
cable output	F

CONNECTOR OPTIONS	
always "0" in case of cable output	0
1 male M12 4P or M12 5P connector (single version analog and CANopen output) or (redundant or half-redundant version only CANopen) 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 M12 5P female connector (only for IN-OUT CANopen version)	3

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

MEASUREMENT RANGE	
measurement range (specify)	
available strokes: 1.800mm-2.300mm-3.300mm-4.300mm-4.800mm-5.300mm-6.300mm-7.300mm-8.000mm-8.300mm	XXX

SUPPLY VOLTAGE	
+10..36 Vdc	H

OUTPUT TYPE	
+0.5...4.5Vdc (powered at +10..36Vdc)	A1
0...10Vdc (powered at +11..36Vdc)	A2
4...20mA output (powered at +10..36Vdc)	A3
CANopen output (powered at +10..36Vdc)	C1

Example of description: GSHSN1H1800HC1 0000X00

GSH	S	N	1	H	1800	H	C1	0	000	X	00
	wire transducer	M12 5-pole connector	1xM12 5P connector	half-redundant	1800mm stroke	+10...36Vdc	CANopen output	No certificate required	Special execution	No accessories	ND

CERTIFICATES	
0	No certificate attached
L	Linearity curve attached

ACCESSORIES	
X	No accessories
A	FLA033: fixing flange, A version
B	FLA034: fixing flange, B version
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

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

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DTS_GSH_02-2021_ENG