GEFRAN

# GSF

*WIRE POSITION TRANSDUCER*
*(WIRE POTENTIOMETER)*

*Linear transducer with wire potentiometer technology.*

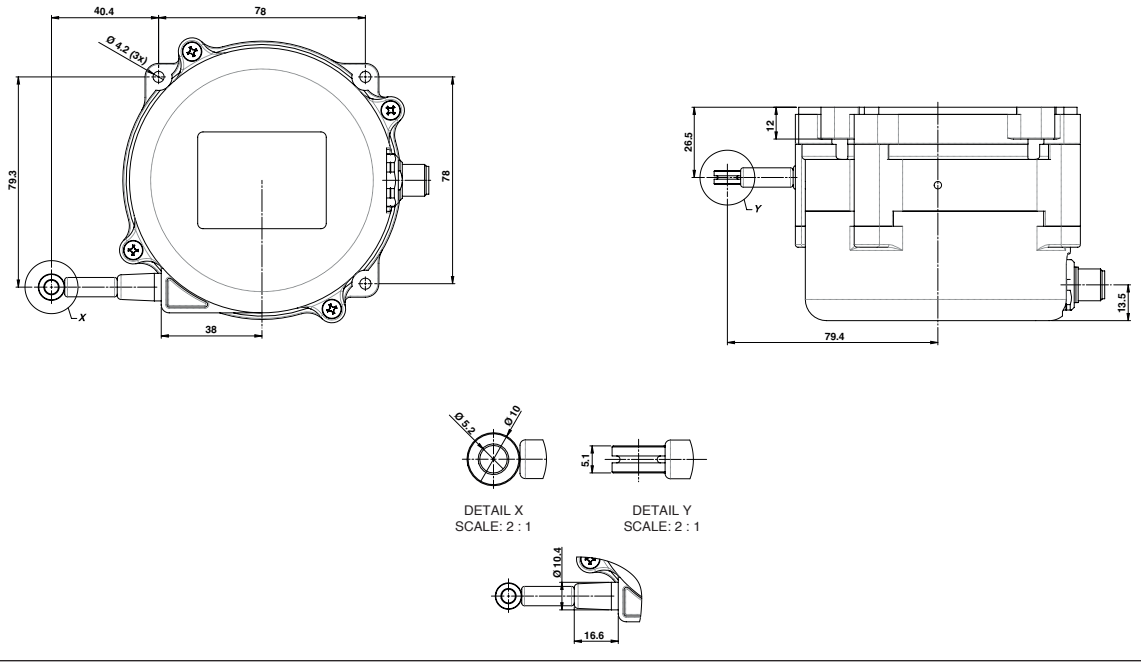
*Excellent repeatability, high IP rating, resistance to shock and vibrations, and high electromagnetic compatibility make this transducer suitable for mobile hydraulics applications.*

*Developed to guarantee a robust, high-performance solution for applications such as agricultural vehicles, earth-moving machines, and hoisting equipment.*

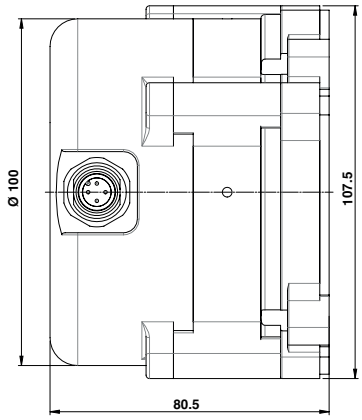
## TECHNICAL SPECIFICATIONS

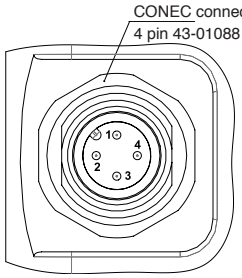
| |
|---|
| **Measurement Range** |
| Stroke 1.800mm - 2.300mm - 3.300mm - 4.300mm - 4.800mm - 5.300mm - 6.300mm - 7.300mm - 8.000mm - 8.300mm |
| **Supply voltage** |
| +10..30 Vdc (potentiometric - voltage divider- output)<br>+10..36 Vdc (other output - see output signal for right supply voltage) |
| **Output signal** |
| Potentiometric - voltage divider- output; 0.5...4.5V; 0...10V; 4...20mA; CANopen output |
| **Electrical connections** |
| M12 connector output |
| **Resolution** |
| Virtually infinite for potentiometric - voltage divider- output; analog output 0.5...4.5V, 0...10V, 4...20mA 12 bit; CANopen output 12/16 bit |
| **Linearity** |
| ± 0.5% FS |
| **Repeatability** |
| ± 0.1% FS |
| **Working temperature** |
| -40°C...+85°C |
| **Vibrations** |
| 20g between 10 Hz … 2000 Hz EN 60068-2-6 |
| **Shock** |
| Pulse on 3 axes; 50g 11 ms EN 60068-2-27 |
| **Electromagnetic compatibility** |
| According to Directive 2004/108/CE |
| **Life cycles** |
| 250.000 (potentiometer) |
| **IP Protection Level** |
| M12 connector (IP67) |
| **Constructive material of transducer body and wire** |
| Transducer: PBT<br>Wire: AISI316 stainless steel, Ø0.85mm nylon coating |

## MECHANICAL DIMENSIONS



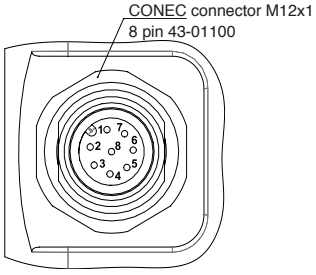
## ELECTRICAL CONNECTIONS



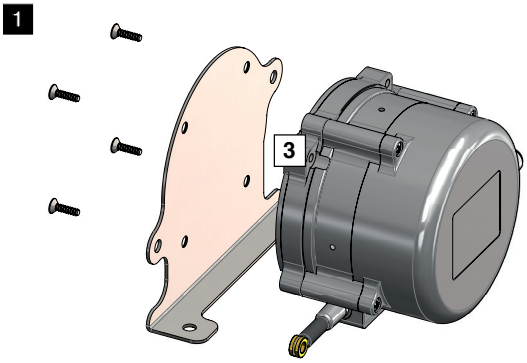

| CONNECTIONS | | CONNECTIONS | |
|---|---|---|---|
| 1. | +SUPPLY | 1. | +SUPPLY |
| 2. | GROUND | 2. | GROUND |
| 3. | OUTPUT | 3. | CANH |
| 4. | n.c. | 4. | CANL |

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




| CONNECTIONS | | CONNECTIONS | |
|---|---|---|---|
| 1. | + SUPPLY | 1. | + SUPPLY |
| 2. | GROUND | 2. | GROUND |
| 3. | OUTPUT 1 | 3. | CANH 1 |
| 4. | n.c. | 4. | CANL 1 |
| 5. | + SUPPLY | 5. | + SUPPLY |
| 6. | GROUND | 6. | GROUND |
| 7. | OUTPUT 2 | 7. | CANH 2 |
| 8. | n.c. | 8. | CANL 2 |

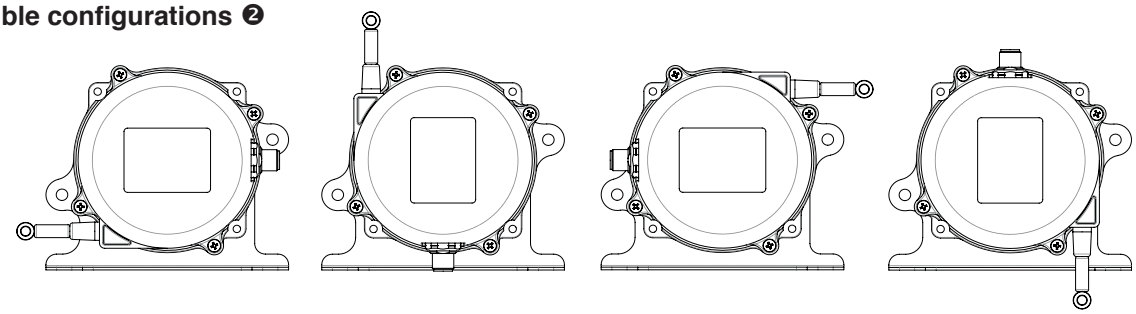
## HOW TO CHANGE THE MEASUREMENT WIRE OUTPUT



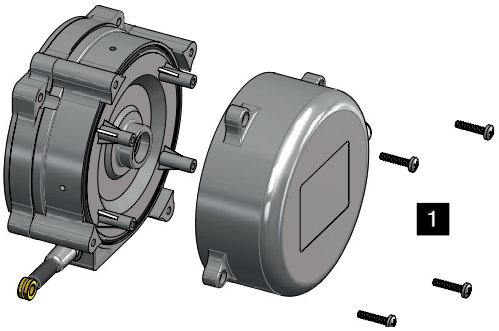

1. Carefully remove the 4 fixing screws from the flange shown in point ❶
2. Rotate the sensor to the required postion (4 possible configurations) ❷

⚠ Attention!! For safety reasons, never open the rear body of the transducer shown in point ❸

**Possible configurations ❷**



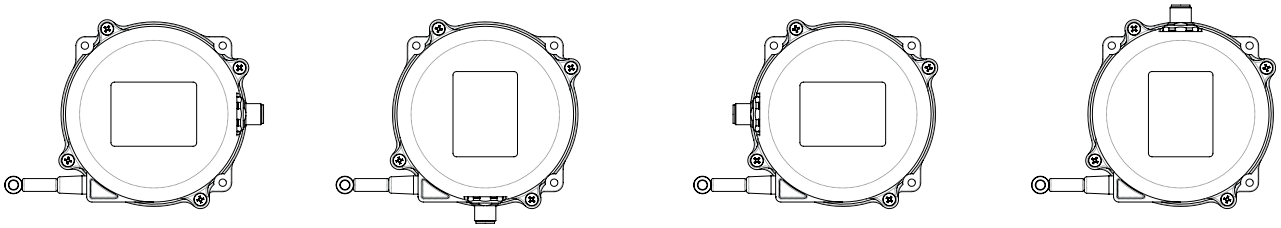
## HOW TO CHANGE THE DIRECTION OF THE CONNECTOR



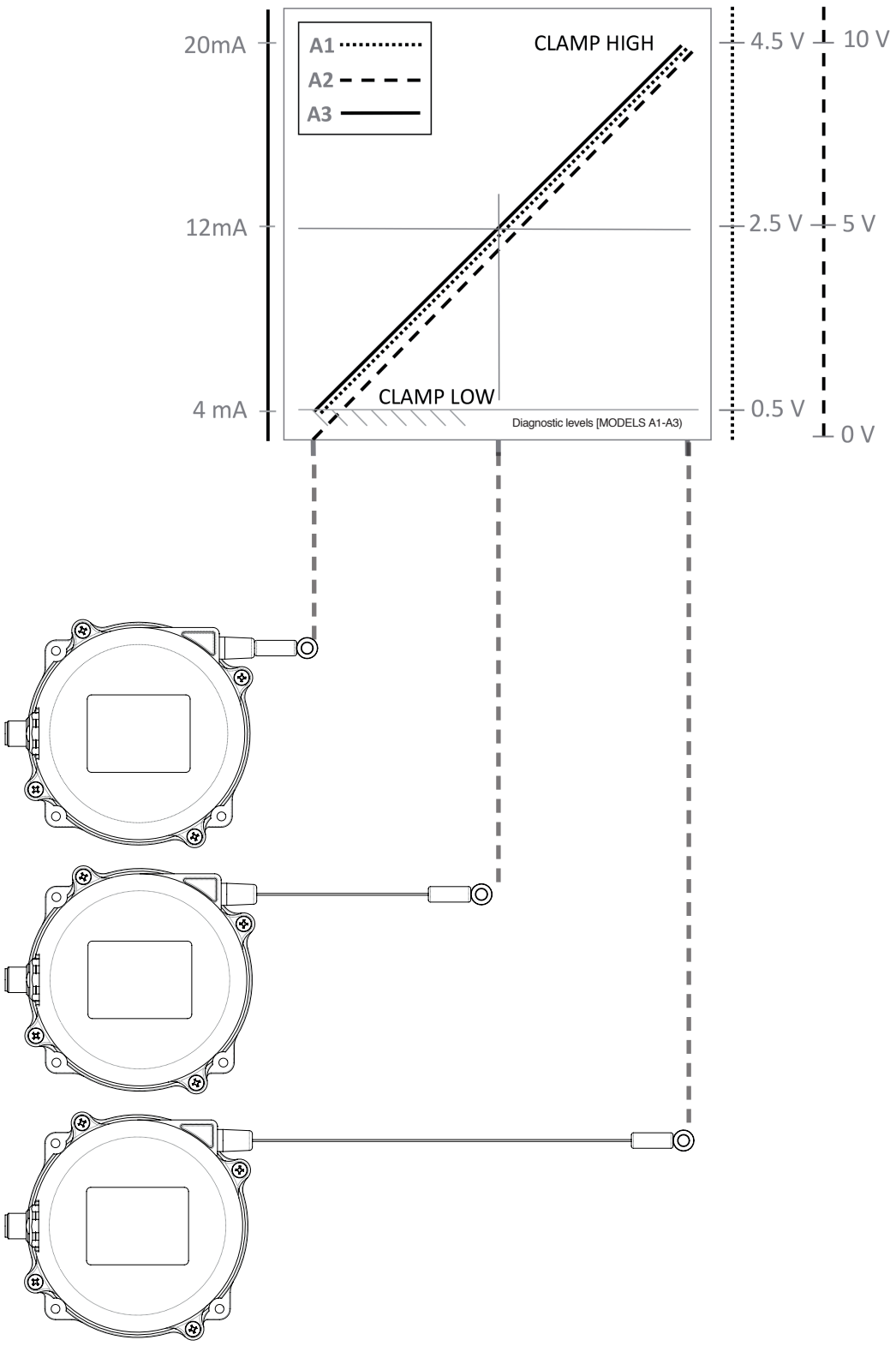

1. Carefully remove the 4 fixing screws from the closing cover shown in point ❶
2. Rotate the closing cover to the required postion (4 possible configurations) ❷

⚠ Attention!! When closing the cover, be careful not to twist and/or crush the connector wires.

**Possible configurations ❷**



## OPERATING SPECIFICATIONS: OUTPUT SIGNAL GRAPHS




**LOAD CONDITIONS**

+0.5Vdc…+4.5Vdc output (powered at +10..36VDC) and 0..10VDC output (powered at +11..36VDC) : apply a load resistance >100Kohm

+0.5Vdc…+4.5Vdc output (powered at +5VDC): apply a load resistance > 10Kohm

4..20mA output (powered at < + 15..36VDC): maximum allowed load resistance is 200 ohm

4..20mA output (powered at > + 15..36VDC): maximum allowed load resistance is 500 ohm

## ORDERING CODE

### GSF - WIRE POTENTIOMETER TRANSDUCER

| TRANSDUCER TYPE | |
|---|---|
| Wire transducer | **S** |

| ELECTRICAL CONNECTIONS | |
|---|---|
| M12 connector output | **M** |

| CIRCUIT TYPE | |
|---|---|
| Single | **S** |
| Redundant | **R** |

| MEASUREMENT RANGE | |
|---|---|
| measurement range (specify)<br>available stroke: 1.800mm-2.300mm-3.300mm-4.300mm 4.800mm-5.300mm-6.300mm-7.300mm-8.000mm-8.300mm | **XXX** |

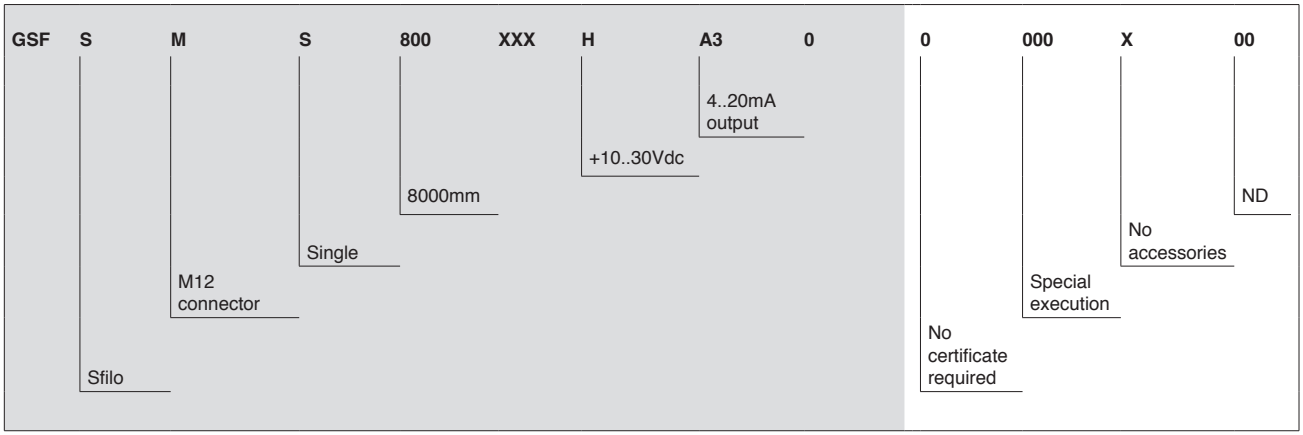
| SUPPLY VOLTAGE | |
|---|---|
| +10..30 Vdc (potentiometric - voltage divider- output) | **L** |
| +10..36 Vdc (other output - see output signal for right supply voltage) | **H** |

| OUTPUT TYPE | |
|---|---|
| Potentiometric - voltage divider- output | **A0** |
| 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** |

| CERTIFICATES | |
|---|---|
| **0** | No certificate enclosed |
| **L** | Linearity curve enclosed |

| ACCESSORIES | |
|---|---|
| **X** | No accessory enclosed |

**Example of description**



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