

Characteristics

- Small overall dimensions; Dimensions 39x23 mm
- Rugged and heavy profile with a wide cross section
- Armored connecting cable without external connections
Connector inside the transducer
- Four sealing lips made of special anti-wearing elastomer, for an excellent protection of the grating
- High stability of LINE DRIVER signals
- Resolutions up to 0.5 μm ; accuracy grade from 3 μm to 10 μm
- One reference index at midpoint or in different required positions
- Wide alignment tolerances
- In modular version for measuring lengths over 6.500 mm, or for lower measuring lengths on request
- Full possibility to disassemble and reassemble the scale
- Protected against inversion of power supply polarity and short circuits on output ports



Mechanical data

| | SCR10 | SCR K50 | SCRW10 | SCR100 | SCR K5 | SCR5 | SCR W1 | SCR W05 |
|-----------------------|---|------------------|------------------|---------------------|--------|---------------------|-------------------|------------------|
| Grating pitch | 400 μm | | | 40 μm | | 20 μm | 40 μm | 20 μm |
| Resolution | 100 μm | 50 μm | 10 μm | 5 μm | | 1 μm | 0,5 μm | |
| Accuracy | $\pm 10 \mu\text{m}$ | | | $\pm 5 \mu\text{m}$ | | $\pm 3 \mu\text{m}$ | | |
| Max. traversing speed | 120 m/min | | | 80 m/min | | 60 m/min | 25 m/min | 12 m/min |
| Max. acceleration | 40 m/s ² | | | | | | | |
| Reference indexes | in required positions | | | | | | | |
| Output signals | NPN / Line Driver / Push-Pull | | | | | | | |
| Protection class | IP 54 standard, IP 64 pressurized | | | | | | | |
| Thermal expansion | 10,6x10 ⁻⁶ °C ⁻¹ T rif. = 20°C $\pm 0,1$ °C | | | | | | | |
| Max. resistance | ≤ 4 N (0,4 Kgf) | | | | | | | |
| Operating temperature | 0 - 50 °C (UR=20 - 80%) | | | | | | | |
| Storage temperature | -20 °C - 70 °C | | | | | | | |

Electrical data

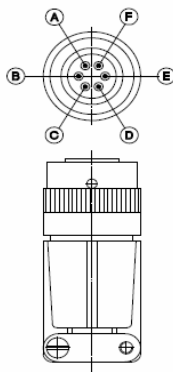
| | |
|---------------------|--|
| Sensor-Emitters | Phototransistor-Led |
| Power supply | 5 VDC or 12 VDC $\pm 5\%$ |
| Current consumption | Typical 65 mA |
| Output signals | A and B + Reference index Line driver/Push-Pull |
| Phase displacement | 90° $\pm 5^\circ$ electrical |

Pin assignment

| Push-Pull (5-wire) | Line Driver (8-wire) | Colour of wires |
|--------------------|----------------------|-----------------|
| B | A | green |
| A | B | white |
| V+ | V+ | red |
| GND | GND | dark blue |
| ground | ground | shield |
| Z | Z | brown |
| - | \bar{A} | orange |
| - | \bar{B} | light-blue |
| - | \bar{Z} | yellow |

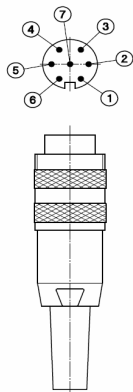
Connector wiring

C3



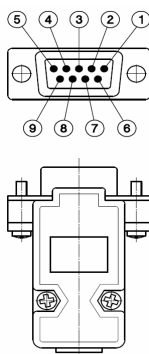
| Signal | Pin |
|---------|-----|
| B | A |
| A | B |
| V+ | C |
| GND | D |
| \perp | E |
| Z | F |

C4



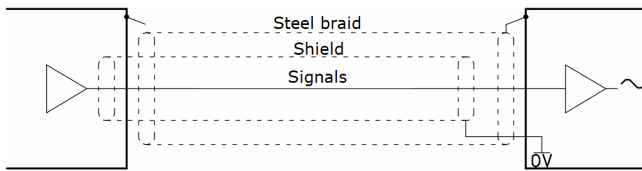
| Signal | Pin |
|---------|-----|
| A | 3 |
| B | 4 |
| Z | 6 |
| V+ | 5 |
| GND | 1 |
| \perp | 7 |
| N.c. | 2 |

C58

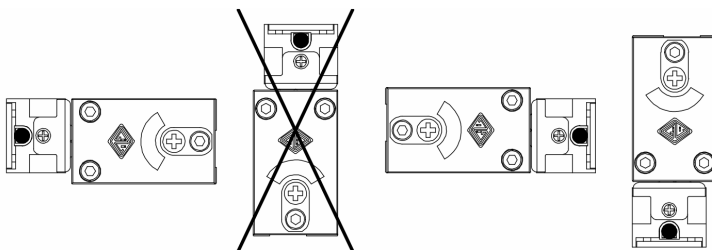


| Signal | Pin |
|---------|------|
| A | 1 |
| N.c. | 2 |
| Z | 3 |
| B | 4 |
| N.c. | 5 |
| N.c. | 6 |
| V+ | 7 |
| GND | 8 |
| \perp | 9 |
| \perp | Case |

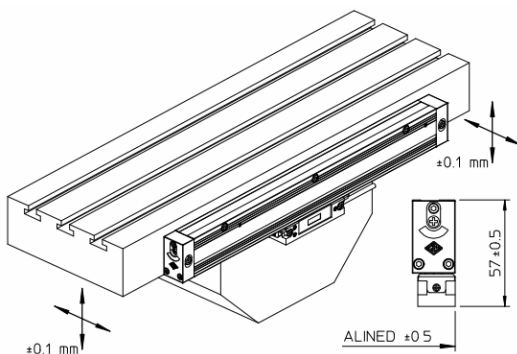
Connecting diagram



Recommended mounting positions

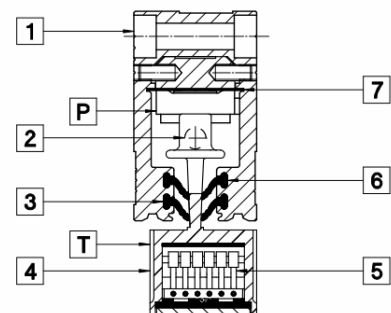


Alignment tolerances



Section of scale and transducer

1. **Scale housing**
in anodized extruded aluminium 39 x 23 mm
2. **Flexible coupling**
for compensation of misalignments and self correction of mechanical hysteresis
3. **External lip seals**
in rubber (two lip seals)
4. **Reading head**
composed by reading block (P) and tie rod (T). Waterproof housing
5. **Hybrid circuit**
for generation of signals with connector for quick release of cable.
6. **Internal lip seals**
for further protection of the grating (two lip seals).
7. **Stainless steel grating**
Size 18 x 0,305 mm in a single piece also in "modular" scales.
The bearing keeps it in the position leaving it free to expand.



Ordering example

SCR - 100 Z - 00250 - 05V Q - M04/S - C3

Type
SCR

Resolution, index

10= 100 µm

K50= 50 µm

100= 10 µm

W10= 10 µm

5= 5 µm

K5= 5 µm

Y2= 2 µm

W1= 1 µm

1= 1 µm

W05= 0,5 µm

Z= with Index

No cod.= no Index

P= index at constant step

C= index with coded distance

E= selectable index

Measuring length

Length in mm ($L_{MAX}=7500$ mm on request)

0250= 270 mm

Power supply, output signals

05V= 5 VDC

12V= 12 VDC

24V= 24 VDC

L= Line Driver

Q= Push-Pull

Cable length, cable type

Mnn= length in m

M04= 4 m

S= PUR cable for continuous movements

Connector wiring

Cnn= progressive

C3= 6-Pin/M Amphenol

C4= 7-Pin/M Amphenol

C58= D-SUB 9-Pin

SC= without connector

Note: Without prior notice, the products may be subject to modifications that the Manufacturer reserves to introduce as deemed necessary for their improvement.