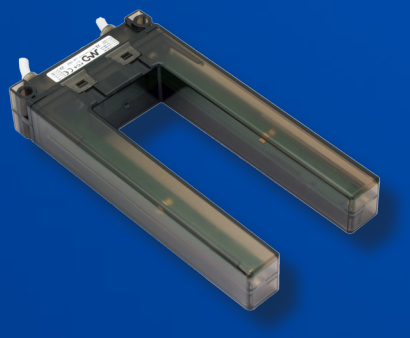
FC4 series

Four beams fork sensor
for belt tracking control

features

- **Four beams photoelectric fork sensor for belt tracking control**
- **Double static outputs + alarm contact**
- **Approvals: CE**



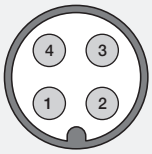
web contents

- **Application notes**
- **Photos**
- **Catalogue / Manuals**

ordering system

description	model
Two pig-tail, male M12 connectors, 4 pins, cable length 600 mm	FC4/V-00
Two co-axial cables, 4 pins, cable length 2,000 mm	FC4/A-00

plug



J1 plug			
pin	colour	function	description
1	brown	24 Vdc power input	power supply and common positive for loads
2	white	belt tracking output NC	PNP NC output with short circuit protection
3	blue	0 Vdc power input	power and output return
4	black	belt tracking output NO	PNP NO output with short circuit protection

J2 plug			
pin	colour	function	description
1	brown	not connected	can be used as input
2	white	alarm output A	pin a1 of alarm output contact
3	blue	not connected	power and output return
4	black	alarm output A	pin a2 of alarm output contact

technical specification

according to IEC EN 60947-5-2

parameters	minimum	typical	maximum
sensitivity [1]	-	1 sheet of 80 g/m² white paper	-
wave length	-	880 nm	-
light beam diameter (maximum obstacle diameter)	-		3 mm
aperture angle	± 15°		
oscillation hysteresis	7 mm		
optical power class	1 (no danger)		
ambien light rejection		10,000 lux, artificial light	
power supply voltage [2] [3]	10 Vdc	24 Vdc	30 Vdc
ripple [4]	≤ 5 Vpp		
supply current [5]	30 mA	-	70 mA
output A (alarm) [6]	electromechanical contact, 1 A, 30 VDC, no short circuit protection		
outputs ONC and ONO (belt tracking control)	two complementary PNP outputs class DC13 (inductive load protection) short circuit and overload protection		
output current	-	200 mA	300 mA
short-circuit protection	430 mA @ 25°C		
voltage drop	-		2,5 V @ 100 mA
leakage current	-	≤ 10 µA	-
maximum load current		5 µF	
sampling period [7]		4 ms	
scan duration of the four beams [8]		600 µs	
output ONC and ONC response times		4,7 ms	
maximum output switching frequency	70 Hz with 1/2 dark/light	-	100 Hz with 1/1 dark/light
output A contact response time	-	-	8 ms (open); 500 ms (close)
time delay before availability [9]	-	-	700 ms
test input levels (provision only, not connected)	LO ≤ 5 V (or open), HI * 15 V according to IEC 61131-2 (2007)		
VDE protection class	III (max. voltage 50 VAC), 500 V insulation		
index of protection	IP67		
shock resistance IEC 60068-2-27	3 axes x 6, Half sine, Acc.: 30gn, Dur.: 11 ms		
vibration resistance IEC 60068-2-6	freq.: 10...55 Hz, Amp.: 0.5 mm, Sweep: 5 min. Fr: 3 x 30 min		
EMC	in conformity with the EMC Directive according to EN 60947-5-2		
operating temperature range	-	–20 °C ...+55 °C	-
storage temperature	-	–40 °C ...+75 °C	-
humidity	15 %	-	95 %
weight	200 g		
connections	4 pins, see TABLE 1, models, TABLE 4 and TABLE 5		
housing material	PC		
cable materials	PVC		

[1] Dark state detection, valid for all beams individually.
[2] We recommend use of an external power supply to compensate for transient mains failures of up to 20 ms according to EN 60204.
[3] We recommend use an external power supply with max. 1 A short circuit protection.
[4] Must not exceed the max. or min. limits of the operating voltage range.
[5] Excluding loads; valid for entire power supply voltagerange.
[6] Minimum load: 10m VDC, 0.01 mA. Mechanical life: 50x106 oper. min. (at 3 Hz). Electrical life: 100 x 103 oper. min. at 1 A 3 0VDC (at 0.5 Hz)
[7] Duration of two read cycles with integration.
[8] Scan interval between beams is 200 µs.
[9] Time taken, after power on, for outputs to switch from OFF to the state corresponding to the beam state.

dimensions (mm)

FC4/**-**

