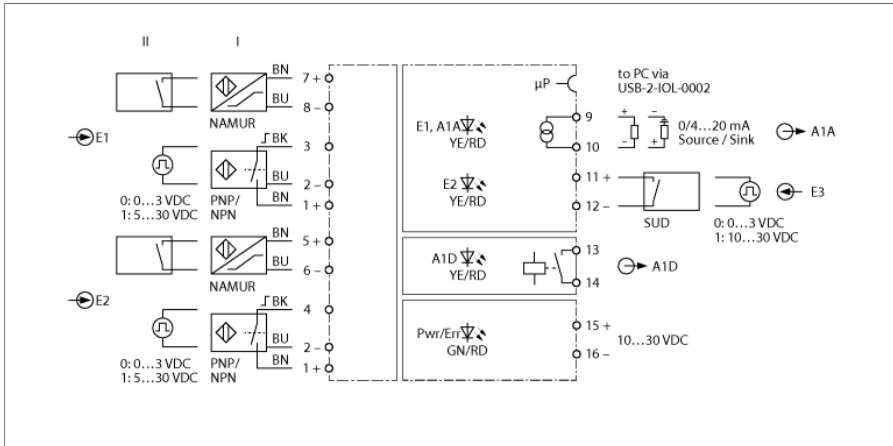


Frequency Transducer/Pulse Counter 1-channel IM12-FI01-1SF-111R-C0/24VDC/K71



The frequency transducer/pulse counter IM12-FI01-1SF-111R-C0/24VDC/K71 transmits frequency signals up to 20,000 Hz galvanically isolated. In addition, limit values, slip or clockwise/counter-clockwise rotation can be monitored.

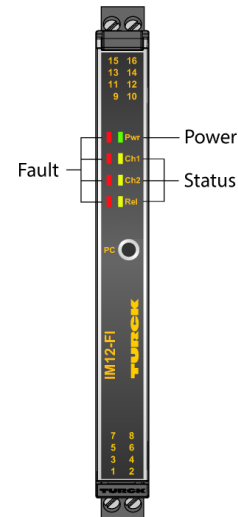
The 1-channel device is equipped with two inputs for the connection of sensors acc. to EN 60947-5-6 (NAMUR) or potential-free contacts. On the output side, there is a 0/4...20 mA current output and a normally open relay.

The device is parameterized via FDT and IODD with a PC. The current output can be set (either as source or sink) to 0/4...20 mA. In accordance with the parameterization (E1, E2, E1 - E2 or E2 - E1), the input signals are output as a 0/4...20 mA normalized current signal. The normally open relay can be used to monitor whether a limit value is exceeded or undershot or to monitor a window function. The startup delay (SUD) is activated via input E1, E2 or E3.

The devices have a green power LED (Pwr) and a red LED to indicate internal faults. For the input circuit, a yellow and red status LED is available. A fault in the input circuit leads to a flashing red LED according to NE44, an internal error to a steady read LED. The fault current can be adjusted to < 3.5 mA or > 21.5 mA. A yellow LED indicates the switching state of the limit value relay. A yellow LED indicates that the startup delay is activated.

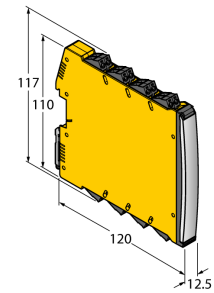
The device complies with the requirements of NE21. It is equipped with removable screw terminals.

The device is equipped with removable screw terminals.

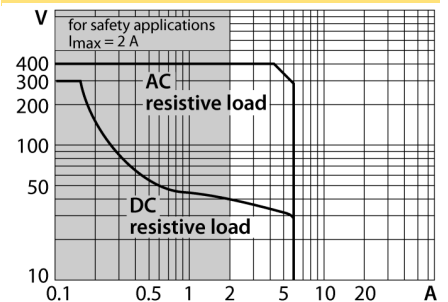


- Input circuits monitored for wire break and short circuit
- Parameterized via PC
- Complete galvanic isolation
- Removable screw terminals

Dimensions



Output relay – Load curve



Type	IM12-FI01-2SF-111R-C0/24VDC/K71
ID	100051431
Nominal voltage	24 VDC
Operating voltage U_s	10...30 VDC
Power consumption	≤ 3 W
Power dissipation, typical	≤ 1.7 W
Monitoring range/Setting range	0.0006...1,200,000 rpm
NAMUR input	
NAMUR	EN 60947-5-6
No-load voltage	8.2 VDC
Short-circuit current	8.2 mA
Input resistance	1 k Ω
Cable resistance	≤ 50 Ω
Switch-on threshold	1.75 mA
Switch-off threshold	1.55 mA
Wire breakage threshold	≤ 0.06 mA
Short-circuit threshold	≥ 6.4 mA
3-wire input	
No-load voltage	12 VDC
0-signal	0...3VDC
1-signal	5...30 VDC
External signal source	
0-signal	0...3 VDC
1-signal	5...30 VDC
Output circuits	
Output current	Source/sink (10...30 V) 0/4...20 mA
Load resistance current output	≤ 0.8 k Ω
Output circuits (digital)	1 x relay (change-over)
Output switching voltage relay	≤ 30 VDC / ≤ 250 VAC
Switching current per output	≤ 2 A
Switching capacity per output	≤ 500 VA/60 W
Switching frequency	≤ 15 Hz
Contact quality	AgNi
Response characteristic	
Reference temperature	23 °C
Measuring accuracy current output (including linearity, hysteresis and repeatability)	± 10 μ A
Temperature drift	≤ 0.0025 % of full scale/K
Galvanic isolation	
Test voltage	2.5 kV RMS
E1,E2-E3	375 V peak value acc. to EN 60079-11
E1,E2 supply voltage	375 V peak value acc. to EN 60079-11
A1A supply voltage	300 V RMS acc. to EN 50178 and EN 61010-1
E3 supply voltage	375 V peak value acc. to EN 60079-11
A1A-A1D	300 V RMS acc. to EN 50178 and EN 61010-1
A1A-E3	300 V RMS acc. to EN 50178 and EN 61010-1
Displays/Operating elements	
Operational readiness	Green
Switching state	Yellow
Error indication	red

Mechanical data		
Protection class	IP20	
Flammability class acc. to UL 94	V-0	
Ambient temperature	-25...+70 °C	
Storage temperature	-40...+80 °C	
Dimensions	120 x 12.5 x 117 mm	
Weight	179 g	
Mounting instructions	DIN rail (NS35)	
Housing material	Plastic, Polycarbonate/ABS	
Electrical connection	Removable screw terminals, 2-pin	
Terminal cross-section	0.2...2.5 mm ² (AWG: 24...14)	
Tightening torque	0.5 Nm	
Tightening torque	4.43 LBS-Inch	
Environmental conditions	Operating height	Up to 2000 m above sea level
	Pollution degree	II
	Surge/Overvoltage category	II (EN 61010-1)
	Standards used	
	Voltage resistance and insulation	
		EN 50178
		EN 61010-1
		EN 50155
		GL VI-7-2
	Shock	
		EN 61373 class B
		EN 50155
		GL VI-7-2
		EN 60068-2-6
		EN 60068-2-27
	Temperature	
		EN 60068-2-1 Ad
		EN 50155
		GL VI-7-2
		EN 60068-2-2 Bd
		EN 60068-2-1
	Air humidity	
		EN 60068-2-38
	EMC	
		EN 50155
		GL VI-7-2
		NE21
		EN 61326-1
		EN 61326-3-1
		EN 61000-4-2
		EN 61000-4-3
		EN 61000-4-4
		EN 61000-4-5
		EN 61000-4-6
		EN 61000-4-11
		EN 61000-4-29
		EN 55011
		EN 55016
		EN 50121-3-2
		EN 61000-6-2

Accessories

Type code	Ident no.		Dimension drawing
USB-2-IOL-0002	6825482	IO-Link Master with integrated USB port	
IOL-COM/3M	7525110	IO-Link communication line for connecting IO-Link devices to an IO-link master via a 3.5-mm jack plug	
IMX12-SC-2X-4BK	7580940	Screw terminals for IM(X)12 modules; included in delivery: 4 pcs. of 2-pin black terminals	
IMX12-CC-2X-4BK	7580942	Spring terminals for IM(X)12 modules; included in delivery: 4 pcs. black terminals, 2-pin	