

T4000 Standard

SICK
Sensor Intelligence.

T4000-1RBA01 | T4000 Standard

NON-CONTACT SAFETY SWITCHES



Ordering information

Type	Part no.
T4000-1RBA01	6012147

Other models and accessories → www.sick.com/T4000_Standard



Detailed technical data

Features

System part	Evaluation unit
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Safety-related parameters

Category	Category 3 (EN ISO 13849)
Performance level	PL e (EN ISO 13849)
PFH _D (mean probability of a dangerous failure per hour)	4.3 x 10 ⁻⁸ ¹⁾ 8.8 x 10 ⁻⁸ ²⁾
T _M (mission time)	20 years (EN ISO 13849) ¹⁾ 8 years (EN ISO 13849) ²⁾
Type	Type 4 (EN ISO 14119)
Actuator coding level	High coding level (EN ISO 14119)
Classification in compliance with IEC/EN 60947-5-3	PDF-M

¹⁾ With < 34.600 switching cycles p.a.

²⁾ With < 90.000 switching cycles p.a.

Functions

Safe series connection	None, only individual wiring (with diagnostics)
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Interfaces

Connection type	Plug-in terminals
IO-Link Safety	
WCDT	≤ 180 ms
Display elements	
Out indication	✓
Error indication	✓
Status display	✓

Electrical data

Protection class	III (EN 50178)
Contamination rating	2
Classification according to cULus	Class 2
Note on supply voltage U_S	Operation with UL-class 2 power supply only
External fuse	At supply voltage V_S 0.25 A ... 8 A
Switching voltage	60 V DC / 30 V AC
Usage category	AC-12/DC-12, AC-14/DC-13 (EN 60947-5-2)
Rated operating current (voltage)	0.3 A (60 V AC) 50 Hz 6 A (30 V AC) 50 Hz 0.3 A (60 V DC) 6 A (30 V DC) 2 A (30 V AC) 50 Hz 3 A (24 V DC)
Rated insulation voltage U_i	63 V
Rated impulse withstand voltage U_{imp}	1,500 V AC
Supply voltage V_S	24 V DC (21 V DC ... 27 V DC)
Short-circuit protection	6 A gG
Type of output	Relays
Switching voltage	≥ 0.1 V DC
Response time	≤ 180 ms
Switch-on time	≤ 3 s ¹⁾
Number of application diagnostic outputs	1 semiconductor, p-switching
Number of safe outputs (N/O)	2

¹⁾ When the operating voltage is switched on, the relay outputs are electrically isolated during the initialisation period, and the door alarm contact set to LOW .

Mechanical data

Design	Rectangular
Dimensions (W x H x D)	22.5 mm x 114 mm x 99 mm
Weight	0.327 kg
Housing material	Plastic PA6.6
Mechanical life	10×10^6 switching cycles

Ambient data

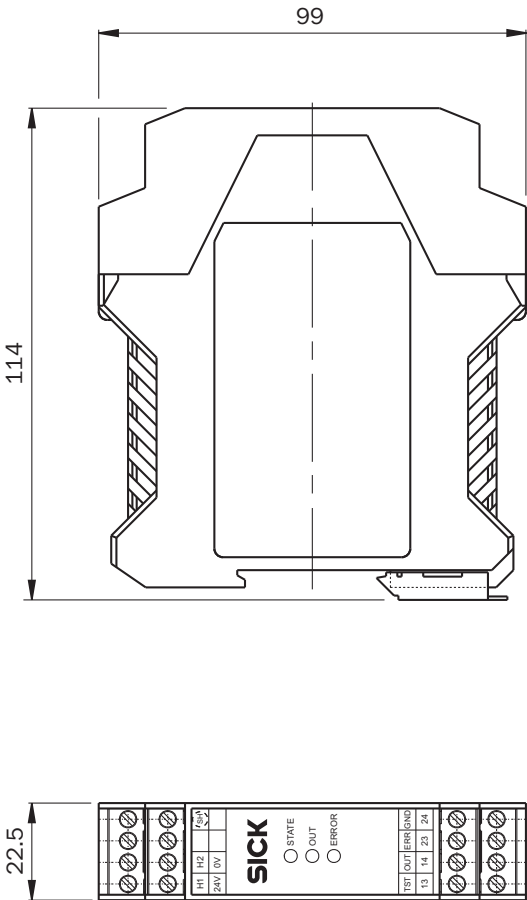
Enclosure rating	IP20
Ambient operating temperature	0 °C ... +55 °C
Storage temperature	-25 °C ... +70 °C
Vibration resistance	10 Hz ... 55 Hz, 0.5 mm (IEC 60068-2-6)
Shock resistance	30 g, 11 ms (IEC 60068-2-27)

Classifications

ECLASS 5.0	27272403
ECLASS 5.1.4	27272403
ECLASS 6.0	27272403
ECLASS 6.2	27272403

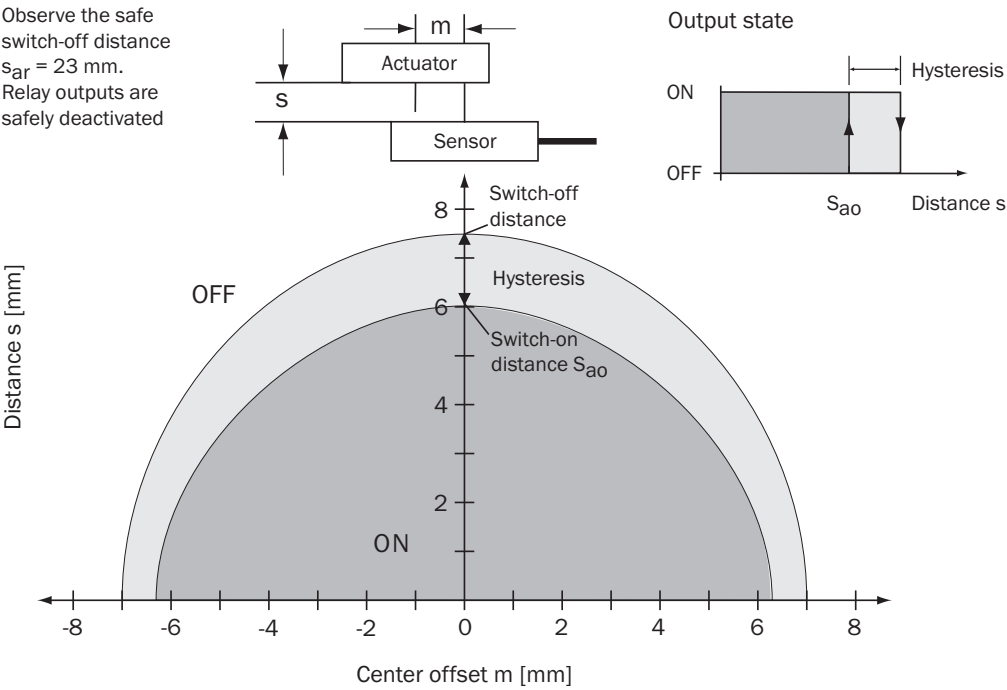
ECLASS 7.0	27272403
ECLASS 8.0	27272403
ECLASS 8.1	27272403
ECLASS 9.0	27272403
ECLASS 10.0	27272403
ECLASS 11.0	27272403
ECLASS 12.0	27274601
ETIM 5.0	EC001829
ETIM 6.0	EC001829
ETIM 7.0	EC001829
ETIM 8.0	EC001829
UNSPSC 16.0901	39122205

Dimensional drawing (Dimensions in mm (inch))

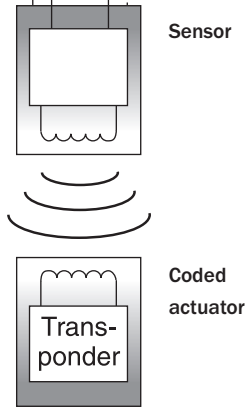
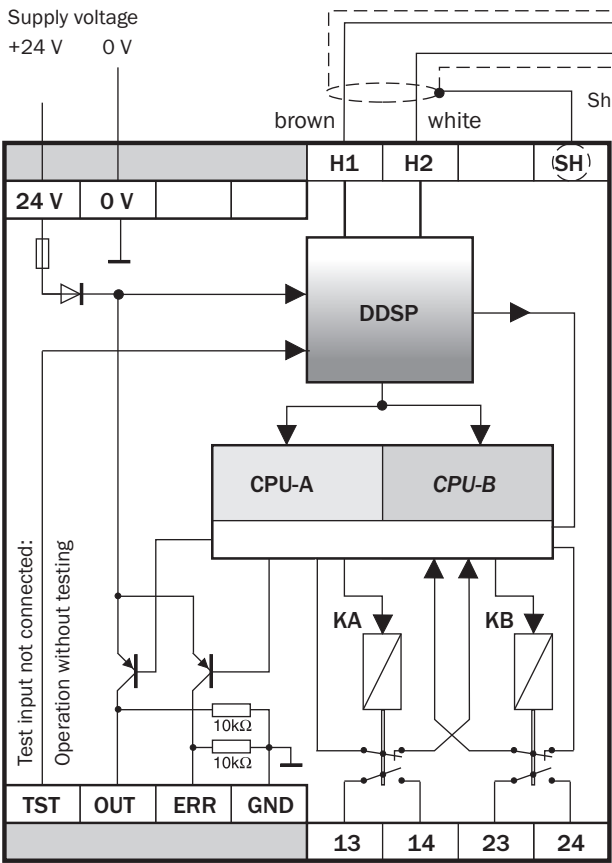


Response range

Observe the safe
switch-off distance
 $s_{ar} = 23\text{ mm}$.
Relay outputs are
safely deactivated



Pin assignment



DDSP:
Double Dynamic Safety-Path
with error monitoring of the actuator,
of the sensor and of the cable
to the sensor

TST	Test input (STATE)
OUT	Enable output
ERR	Diagnostic output (ERROR)
GND	0 V
H1 / H2	Connection, sensor
13 / 14	Connection, N/O contact 1, enable contact safety relay
23 / 24	Connection, N/O contact 2, enable contact safety relay

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

WORLDWIDE PRESENCE:

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