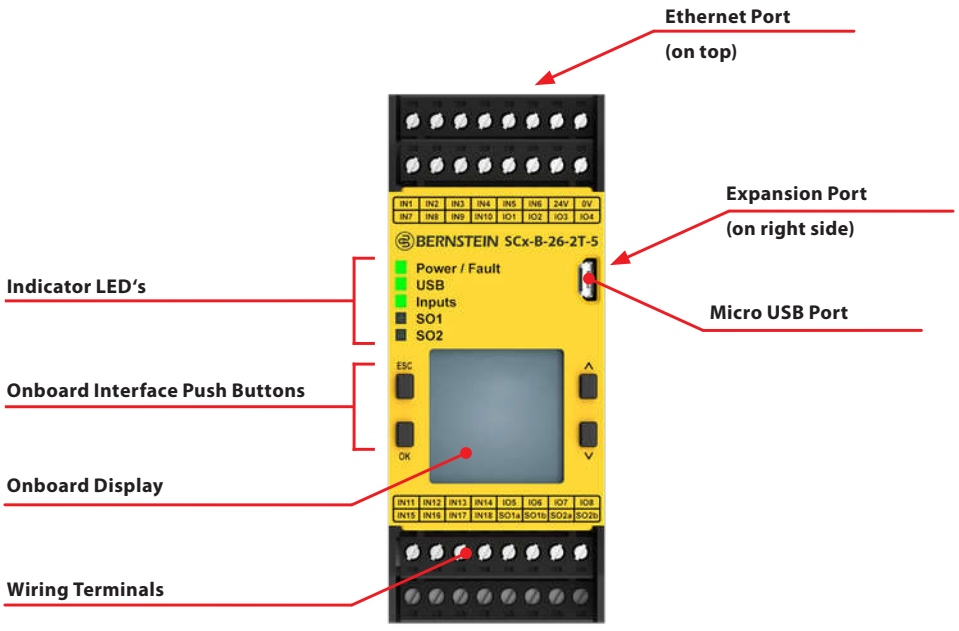
Safety Controller
Series SCx

Description **SCx-B-26-2T-5**	Article number **6075731212**





Electrical Data	
Sourcing voltage	
Voltage	24 V DC ± 20 % (incl. ripple)
Current	100 mA no load
Convertible E/A	
Sourcing current	≤ 80 mA (overcurrent protection)
Test Pulses	1 ms every 25 to 75 ms
Safety Inputs (and Convertible E/A when used as inputs)	
Input On threshold	> 15 V DC (guaranteed on) ≤ 30 V DC
Input Off threshold	< 5 V DC and < 2 mA, –3 V DC min.
Input On Current	5 mA typical at 24 V DC, 50 mA peak contact cleaning current at 24 V DC
Input lead resistance	300 Ω maximum (150 Ω per lead)
Input requirements for a 4-wire Safety Mat	· Maximum capacity between plates: 0,22 µF[1] · Maximum capacity between bottom plate and ground: 0,22 µF[1] · Maximum resistance between the 2 input terminals of one plate: 20 Ω
Response and recovery times	
Response time (from the end of the input to the switching off the output):	see configuration overview in the software, as this may vary
Recovery time input (stop until start):	250 ms typical, 400 ms max
Timeout function for virtual input (muting activation and on/off):	RPI + 200 ms typical
Timeout function for virtual input (manual reset and abort delay):	For details, refer to Virtual non-safety related input devices (SCx) in the Operation Manual.
Delay Tolerance	±(0,02% + 2 scan times)
Solid-state safety outputs	0,5 A max. at 24 V DC (1,0 V DC max. drop), 1 A max. inrush
Output OFF threshold	1,7 V DC typical (2,0 V DC max.)
Output leakage current	50 µA max. with open 0 V
Load	max. 0,1 µF, max. 1 H, max. 10 Ω per line
Network interface	Ethernet 10/100 Base-T/TX, modular RJ45 connection Selectable automatic negotiation or manual rate and duplex Auto MDI/MDIX (Auto-Cross)
Protocols	Modbus® TCP, PROFINET® and EtherCAT® (requires SCx-N-Cat gateway)
Data	256 virtual status outputs; error diagnostic codes and messages; access to error log

Mechanical Data	
Operating Conditions	
Temperature	0 °C to +55 °C
Storage Temperature	–30 °C to +65 °C
Humidity	90 % at +50 °C maximum relative humidity (non-condensing)
Operating Altitude	2000 m maximum (6562 ft maximum)
Protection class	IP20 (NEMA 1), for use in enclosures to IP54 (NEMA 3) or higher
Mechanical Stress	
Shock	15 g for 11 ms, half sine, 18 shocks total (per IEC 61131-2)
Vibration	3,5 mm occasional / 1,75 mm continuous at 5 Hz to 9 Hz, 1,0 g occasional and 0,5 g continuous at 9 Hz to 150 Hz: all at 10 sweep cycles per axis (per IEC 61131-2)

Supply Wiring (AWG)	Required Overcurrent Protection (Amps)
0,50/20	5,0
0,32/22	3,0
0,20/24	2,0
0,13/26	1,0
0,08/28	0,8
0,05/30	0,5

Overcurrent protection is required to be provided by end product application per the supplied table.
Overcurrent protection may be provided with external fusing or via Current Limiting, Class 2 Power Supply.
Power supply wires < 0,20mm^2 (24 AWG) must not be connected.
For additional product support, go to www.bernstein.eu.

Standards	
	EN ISO 12100
	ISO 13857
	ISO13850
	EN 574
	IEC6206
	EN ISO 13849-1
	ISO 13855
	ISO 14119
	EN 60204-1
	IEC 61496
	IEC 60529
	IEC 60947-1
	IEC 60947-5-1
	IEC 60947-5-5
	IEC 61508
	IEC 62046

Safety Ratings	
	Category 4, PL e (EN ISO 13849)
	SIL CL 3 (IEC 62061, IEC 61508)

Safety characteristics	
PFH (1/H)	1,05 x 10^{-9}
Proof Test Interval	20 years

EU-Conformity	
	according to directive 2006/42/EG (Safety-of-Machinery-Directive)
	according to directive 2014/30/EU (EMV-Richtlinie)
	2012/19/EU (EU-WEEE II); WEEE-Reg. No. DE 50560927

Approvals	
	$_{C}UL_{US}$
	PI (PROFIBUS PROFINET)

Technical modifications and errors excepted.
The technical datasheet corresponds to the technical state as of 2024-06-03 and will not be removed in case of changes.