



Safety controllers Drive Monitor FX3-MOC

FX3-MOC00000



Model Name > [FX3-MOC00000](#)
Part No. > [1062344](#)



At a glance

- 7 drive safety functions: SS1, SS2, SOS, SSM, SLS, SDI, and SBC
- For all common encoder interfaces
- Programmable logic
- Monitoring of up to 10 speed levels and 4 brake ramps
- Possible to monitor multiple axes

Your benefits

- Integration into a Flexi Soft system with one software tool and one project file allows quick project planning and commissioning
- Easy logic development using predefined, modifiable, freely configurable applications
- Maximum level of integration into higher-level controllers via all common fieldbus systems using gateways
- Documentation of the entire safety application simplifies machine acceptance and validation
- Monitoring movements instead of shutting down increases machine productivity
- Flexibility due to a wide range of drive safety functions



Safety-related parameters

Safety integrity level:	SIL3 (IEC 61508), SILCL3 (EN 62061)
Category:	Category 4 (EN ISO 13849-1)
Performance level:	PL e (EN ISO 13849-1)
PFHd:	5.0 * 10 ⁻⁹ (EN ISO 13849)
Minimum movement for error detection:	≥ selected tolerance limit for the function block used for the cross check, e.g. speed cross check, at least 1 × within 24 h
TM (mission time):	20 a (EN ISO 13849)

Functions

Safe stop 1 (SS1):	✓
Safe stop 2 (SS2):	✓
Safe operating stop (SOS):	✓
Safe speed monitoring (SSM):	✓
Safe limited speed (SLS):	✓
Safe direction of motion (SDI):	✓
Safe brake control (SBC):	✓

Electrical data

Power consumption:	$\leq 2.5 \text{ W}$ ¹⁾
Protection class:	III (EN 61140)
Output voltage for encoder:	24 V
TTL, 2 outputs: Input resistance:	$\geq 35 \text{ k}\Omega$
TTL, 2 outputs: Input voltage HIGH:	5 V (2 V ... 5.3 V)
TTL, 2 outputs: Input voltage LOW:	0 V (-0.3 V ... 0.8 V)
TTL, 2 outputs: Input frequency:	$\leq 300 \text{ kHz}$
TTL, 2 output pairs: Input resistance:	$\geq 35 \text{ k}\Omega$
TTL, 2 output pairs: Input voltage HIGH:	5 V (1.2 V ... 5.6 V)
TTL, 2 output pairs: Input voltage LOW:	-5 V (-5.6 V ... -1.2 V)
TTL, 2 output pairs: Input voltage common mode:	-10 V ... 10 V
TTL, 2 output pairs: Input frequency:	$\leq 300 \text{ kHz}$
HTL 12 V, 2 outputs: Input resistance:	$\geq 35 \text{ k}\Omega$
HTL 12 V, 2 outputs: Input voltage HIGH:	12 V (6.5 V ... 15 V)
HTL 12 V, 2 outputs: Input voltage LOW:	0 V (-1 V ... 2.5 V)
HTL 12 V, 2 outputs: Input frequency:	$\leq 300 \text{ kHz}$
HTL 12 V, 2 output pairs: Input resistance:	$\geq 35 \text{ k}\Omega$
HTL 12 V, 2 output pairs: Input voltage HIGH:	12 V (4 V ... 15 V)
HTL 12 V, 2 output pairs: Input voltage LOW:	-12 V (-15 V ... -4 V)
HTL 12 V, 2 output pairs: Input voltage common mode:	-10 V ... 10 V
HTL 12 V, 2 output pairs: Input frequency:	$\leq 300 \text{ kHz}$
HTL 24 V, 2 outputs: Input resistance:	$\geq 35 \text{ k}\Omega$
HTL 24 V, 2 outputs: Input voltage HIGH:	24 V (13 V ... 30 V)
HTL 24 V, 2 outputs: Input voltage LOW:	0 V (-3 V ... 5 V)
HTL 24 V, 2 outputs: Input frequency:	$\leq 300 \text{ kHz}$
HTL 24 V, 2 output pairs: Input resistance:	$\geq 35 \text{ k}\Omega$
HTL 24 V, 2 output pairs: Input voltage HIGH:	24 V (8 V ... 30 V)
HTL 24 V, 2 output pairs: Input voltage LOW:	-24 V (-30 V ... -8 V)
HTL 24 V, 2 output pairs: Input voltage common mode:	-10 V ... 10 V
HTL 24 V, 2 output pairs: Input frequency:	$\leq 300 \text{ kHz}$
RS-422: Differential resistance:	$\geq 35 \text{ k}\Omega$
RS-422: Input voltage HIGH:	0.2 V ... 5 V
RS-422: Input voltage LOW:	-5 V ... -0.2 V
RS-422: Input voltage common mode:	-7 V ... 7 V
RS-422: Input frequency:	$\leq 1,000 \text{ kHz}$
Sin/Cos: Input resistance:	1 k Ω (0.9 k Ω ... 1.1 k Ω)
Sin/Cos: Differential input voltage:	1 V (0.8 V ... 1.2 V)
Sin/Cos: Input voltage common mode:	-10 V ... 10 V
Sin/Cos: Input frequency:	$\leq 120 \text{ kHz}$
Sin/Cos: Lower limit for vector length monitoring:	0.5 V (0.45 V ... 0.6 V)
Sin/Cos: Upper limit for vector length monitoring:	1.25 V (1.2 V ... 1.4 V)
SSI: Differential resistance:	120 Ω (100 Ω ... 150 Ω)
SSI: Clock frequency:	100 kHz ... 1,000 kHz
SSI: Cycle gaps between the data packages (monoflop time):	$\geq 100 \text{ }\mu\text{s}$
SSI: Data bits per frame:	16 ... 62

¹⁾ Via FLEXBUS+, without encoder voltage supply

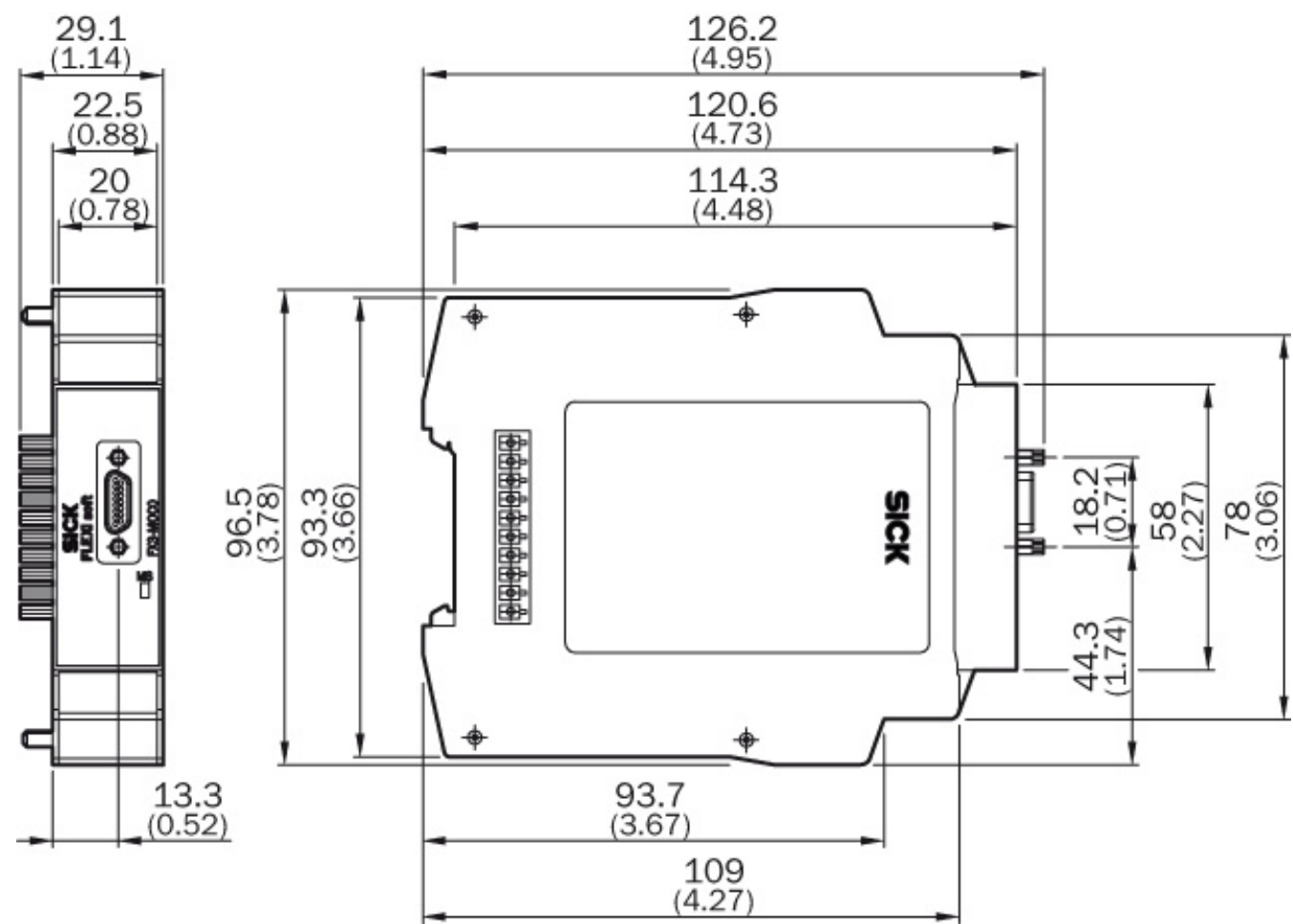
Interfaces

Encoder interface:	A/B incremental encoder, HTL A/B incremental encoder, RS-422 A/B incremental encoder, TTL Sin/Cos encoder SSI encoder
Data interface:	Internal bus (FLEX BUS+)

Ambient data

Enclosure rating terminals:	IP 20 (EN 60529)
Protection class housing:	IP 40 (EN 60529)
Ambient operating temperature:	-25 °C ... 55 °C
Storage temperature:	-25 °C ... 70 °C
Air humidity:	10 % ... 95 %, non-condensing
Electromagnetic compatibility (EMC):	Class A (EN 61000-6-2, EN 55011)
Vibration resistance:	1 g, 5 Hz ... 150 Hz (EN 60068-2-6)
Vibration resistance RMS:	3 g, 10 Hz ... 500 Hz (EN 60068-2-64)
Shock resistance (continuous shock):	10 g, 16 ms (EN 60068-2-27)
Shock resistance (single shock):	30 g, 11 ms (EN 60068-2-27)
Connection type:	Male connector, Micro D-Sub, 15-pin
Dimensions (W x H x D):	22.5 mm x 96.5 mm x 120.8 mm
Weight:	120 g

Dimensional drawing



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