SICK.COM



DATA SHEET

FLM3-CPUN100A16

Flexi Mobile
Safety controllers

SICK Sensor Intelligence



SAFETY CONTROLLERS

FLM3-CPUN100A16

ORDERING INFORMATION

Type	part no.
FLM3-CPUN100A16	1138654

Further device versions and accessories at www.sick.com/Flexi_Mobile

DETAILED TECHNICAL DATA

FEATURES

Security Support Period	
End date of the support period	2035-12
Valid for products with a serial number from	26440000
Items supplied	Safety controller SmartPlug M5 screw for FE connection Safety instruction Downloadable operating instructions
Integrated components	1 × FLM3-CPUN1 1 × FLM0-GCAN1 1 × FLM0-GEPR1
Relevant operating instructions	8026430: Flexi Mobile operating instructions 8026442: GCAN1 operating instructions 8028314: GEPR1 operating instructions

SAFETY-RELATED PARAMETERS

Safety integrity level	SIL 3 (IEC 61508)
Category	Category 4 (ISO 13849-1)
Performance level	PL e (ISO 13849-1)
PFH_D (mean probability of a dangerous failure per hour)	See operating instructions
T_M (mission time)	20 years (ISO 13849-1)

FUNCTIONS

Monitoring of the connected safety devices	✓
Special IO functions (e.g. Fast Shut Off)	✓
Detection of (non-safety) A/B incremental encoders	✓
Switching of the connected safety devices	✓

Testing of the connected safety devices and the wiring (short-circuit detection)	✓
Switching of non-safety devices via test outputs	✓
Programmable logic using graphical function blocks (binary logic, integer processing, application-specific function blocks, drive monitoring)	✓
Kinematics calculation for mobile robots	✓
Drive safety functions	Safe stop 0 (SS0) Safe stop 1 (SS1) Safe stop 2 (SS2) Safe operating stop (SOS) Safe speed monitoring (SSM) Safely-limited speed (SLS) Safe direction (SDI) Safe brake control (SBC) Safe cam (SCA) Safely-limited position (SLP)

INTERFACES

Connection type	1 × USB (on the smart plug) 1 × rectangular plug, 48-pin, type: Molex CMC 1 × Ethernet: M12 socket, 4-pin, D-coded 1 × CAN-I: M12 plug, 5-pin, A-coded 1 × CAN-O: M12 socket, 5-pin, A-coded 2 × EFI pro: Socket, M12, 4-pin, D-coded
Number of connectable A/B incremental encoders (non safety)	2 [1]
Safety inputs	20
Flexi Loop-compatible	✓
Safety outputs	4
Test outputs	8 [2]
Communication interface	Ethernet, Modbus® TCP, SLMP CAN, CANopen EFI-pro, EtherNet/IP™ CIP Safety™, TCP/IP-Sockets
Configuration and diagnostics	
Software	Safety Designer
Storage	SmartPlug (interchangeable, included in the scope of delivery)
Interface	USB connection via SmartPlug TCP/IP configuration interface
Display elements	LEDs

[1] Alternative use of 4 safety inputs. Allows 2 encoders to be connected.

[2] The test outputs can also be used to switch non-safety elements (e.g. lamps).

ELECTRONICS

Protection class	III (IEC 61140)
Supply voltage V_s	24 V DC (16 V ... 32 V)
Type of voltage supply	PELV or SELV [1]
Interference resistance	EN 61000-6-2 EN 61000-6-7
Interference emission	EN 61000-6-4
Overvoltage category	II (EN 61131-2)
Switch-on time	≤ 15 s

[1] The supply current must be limited externally to max. 8 A – either by the power supply unit used, or by means of a fuse.

MECHANICS

Dimensions (W x H x D)	266 mm x 57.6 mm x 194 mm
Contamination rating	4 (IEC 61010-1) 3 (UL 61010-1)
Control device type	Closed device (IEC 61010-2-201)
Weight	1.95 kg (± 5 %)
Mounting	3 through-holes for M6 screw (optionally with EMC insulating washers)

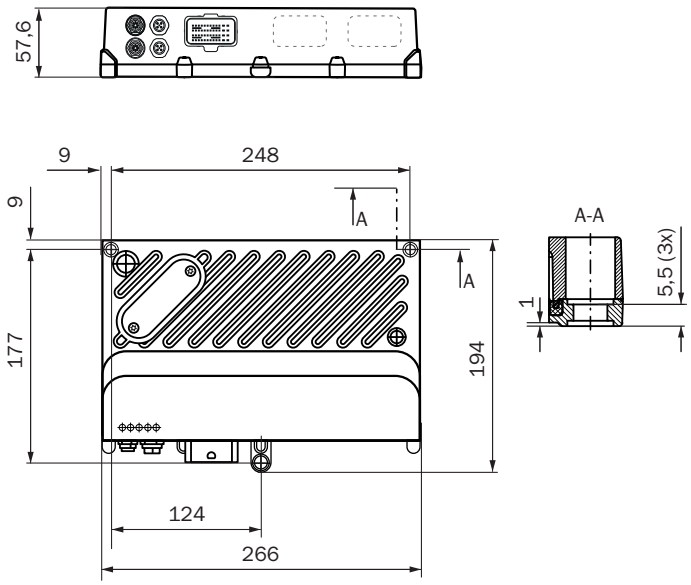
AMBIENT DATA

Enclosure rating	IP65 (IEC 60529) IP66 (IEC 60529) IP67 (IEC 60529) IP69K (ISO 20653) Type 1, “Raintight” and “Watertight” according to UL50E (UL 61010-1)
Ambient operating temperature	–25 °C ... +60 °C
Gehäusetemperatur	–25 °C ... +80 °C
Storage temperature	–40 °C ... +85 °C
Operating altitude	≤ 4,000 m above sea level
Air humidity	≤ 95 %, Non-condensing
Vibration resistance	5 g, 5 Hz ... 200 Hz (EN 60068-2-6)
Broadband noise	3.5 g RMS, 10 Hz ... 500 Hz (EN 60068-2-64)
Shock resistance	
Single shock (3 pulses)	100 g, 6 ms (EN 60068-2-27)
Continuous shock (1,500 pulses)	30 g, 11 ms (EN 60068-2-27)
Salznebel	Test method 4 (EN 60068-2-52)
Sonnenstrahlung und Bewitterung	Test method Sa2 (EN 60068-2-5)

CERTIFICATES

EU declaration of conformity	✓
ACMA declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
cTUVus certificate	✓
EC-Type-Examination approval	✓
EC-Type-Examination approval (Machinery Directive)	✓
EC-Type-Examination approval (Machinery Regulation)	✓
Third party certificate	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

DIMENSIONAL DRAWING



Dimensions in mm (inch)

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/1138654

SICK AG
WALDKIRCH
GERMANY
SICK.COM

SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

SICK

Sensor Intelligence