



AS-Interface Safety Cabinet module for emergency stop switch.  
Connect with cabinet cable or standard cable of your choice.



### Cabinet Module Characteristics

- Replaces contact block and fit your emergency stop button and other safety related illuminated or not illuminated pushbuttons, see [www.celpia.com](http://www.celpia.com) for a complete list of supported devices.
- A space, wire, and laboursaving solution for safety equipment.
- Easy tool-free installation and connection using a AS-Interface standard “cabinet cable” with piercing technology or use hook-up wires connected to the terminal block.
- Compact module size.
- One module for all supported brands.
- Complies with IEC 61508 SIL3 (Functional safety of electrical/electronic/programmable. electronic safety-related systems) and EN954-1 safety category 4 (Safety of machinery-Safety related parts of control systems).
- Equipped with AS-Interface standard slave functions.
  - Diagnosis and fault monitoring is possible at operator control point
- Up to 31 slaves can be connected to one single AS-Interface cable.
- LED indicator with 6 colors: Red, Green, Yellow, Amber, Blue and White.
- The LED indicator can be configured in 2 different modes.
  - Continuously high intensity
  - Fading between high intensity and off

### Preamble

This document will provide detailed information of how to install and configure the AS-Interface Cabinet module CMSAFE.

### *General safety instructions*

The following precautions must be observed to ensure safe operation.

1. Do not use the product in environments subject to flammable or explosive gases.
2. The product must only be used indoor or inside a cabinet or box with proper protection class.
3. Do not attempt to disassemble, repair, or modify the product.
4. Do not use a voltage that exceeds the rated operating voltage range.
5. Dispose of the product according to applicable regulations (laws).

### *Intended Use*

The product is designed and intended for specific purpose as described. The product may only be used with equipment and under operating conditions described in relevant documentation. Users must be qualified to handle the devices and be aware of the hazards potentially associated with the process. The user is solely responsible for applications, which go beyond the intended use described here and for each individual product or equipment or device, which are not described in instructions sets.

### *Misuse of the product*

Read this document carefully and always follow all instructions. Celpia AB assumes no responsibility for any damage caused by not following the instructions in this, and product-related documents. Any use beyond the intended use is considered to be misuse.

### *Exclusion of liability*

The information contained herein is accurate at the time of publication, subject to editorial errors. Compatibility with future versions of this product is not guaranteed.

### *Certification*

In order to ensure that all Celpia's AS-Interface products meet the applicable requirements for reliable function and failure immunity, they have been tested by an independent authorized laboratories and have the AS-Interface Certification Logo and UL mark printed on it.

The products have been tested by an authorized laboratory and meet the applicable EMC requirements.

### Technical data

|  |  |
|--|--|
| Type of voltage supply for power supply              | Using AS-Interface, Standard and Power24   |
| Operating voltage                                    | 22.6 – 24V DC class 2  |
| Max total current (22.6 – 24V DC)                    | <45mA  |
| Electrical connection of the AS-Interface line       | Plug-in terminal as piercing terminal for AS-Interface cabinet cable 2x0.86 VZN FRNC / 802183<br>and<br>Mail connector for 2 way plug, Phoenix MSTB2,5 (refer to the accessories)  |
| AS Interface Connection Polarity reversal protection | Built-in   |
| Addressing   | 1-31 programmable via Power Barrel Connector, Outer diameter 3.40mm, inner diameter 1.30mm or AS-Interface connector   |
| Slave profile  | S-7.B.0<br>Extended ID Code 1 is set to F by default but can be changed by user  |
| AS-Interface version                                 | 3.0  |
| Display of AS-Interface status                       | Green and Red LED  |
| Inputs / Actuator switches                           | 2  |
| Outputs / LED indicator colors                       | Red, Green, Yellow, Amber, Blue, White   |
| Dimensions   | Width 29mm, Height 31mm,<br>Depth 30mm   |
| Operating altitude                                   | max 2000m  |
| Ambient temperature during operation                 | -25°C ... +55°C  |
| Ambient temperature during storage                   | -40°C ... +60°C  |
| Protection class                                     | IP 20  |
| Certificates/approvals                               | ASI-Certification No. 136401 by AS-International Association<br>CE marking<br>EN 62026-2:2013/A1:2019<br>RoHS 2011/65/EU<br>WEEE 2012/19/EU<br>UL 60947-1, Edition 6<br>UL 60947-5-1, Edition 4<br>CSA C22.2 No. 60947-1:22, 3rd Ed. CSA C22.2 No. 60947-5-1:22, Edition 2 |
| Delivery note  | The modules are delivered without the plug Phoenix MSTB2,5   |
| Ordering information                                 | CMSAFE   |

## Mounting instructions

The Cabinet module is mounted on the back of an emergency stop switch in the same way the contact block and LED module is mounted. Simply snap the module on the back of the desired device. See [www.celpia.com](http://www.celpia.com) and manufacturer of switch for further instructions.

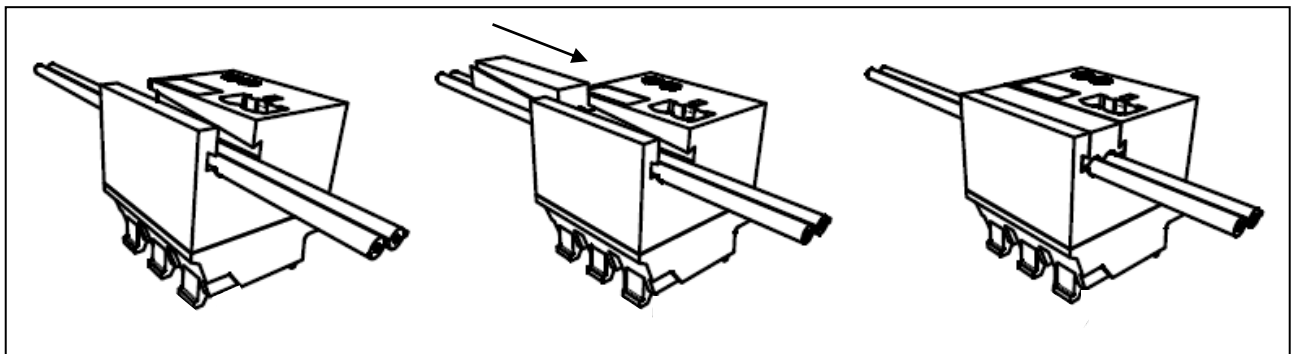
Continuous monitoring and safety shutdown in case of separation of Cabinet module from actuator. This will activate the fault signal to the monitor.

## Connection of Cabinet module

The Cabinet Module can be connected in three different ways. First and preferably by using a standard AS-Interface cabinet cable, secondary with color coded hook-up cables or third by connecting both.

### AS-Interface cabinet cable

If a standard AS-Interface cabinet cable is used, no tools are needed. Remove the wedge and place the cable in the groove that is designed so that the cable fits when properly polarized. Reinstall the wedge and push it in manually, the piercing pins will penetrate the cable insulation.



### Hook-up wires

If hook-up wires are used, a 2-way plug is needed (see chapter accessories).

- Single conductor size:
  - 0,75 – 2,5 mm<sup>2</sup> (AWG 18 – 12)
- Color coding:
  - Brown ASI+
  - Blue ASI-

### AS-Interface cabinet cable and hook-up wires

It is also possible to connect a Cabinet module with both hook-up wire and AS-Interface Cabinet cable and then link to a desired number of Cabinet modules with the Cabinet cable.

**Note!** If the AS-Interface link will continue to other devices, make sure not to reduce the cable area.

### Semantics of I/O data bits and parameter settings

#### Output Data - LED control

Output from master to cabinet module safety slave.

| Bit D2-D0: Value         | LED color |
|--------------------------|-----------|
| 0 (x000 <sub>Bin</sub> ) | OFF       |
| 1 (x001 <sub>Bin</sub> ) | Red       |
| 2 (x010 <sub>Bin</sub> ) | Green     |
| 3 (x011 <sub>Bin</sub> ) | Blue      |
| 4 (x100 <sub>Bin</sub> ) | Yellow    |
| 5 (x101 <sub>Bin</sub> ) | Amber     |
| 6 (x110 <sub>Bin</sub> ) | White     |
| 7 (x111 <sub>Bin</sub> ) | OFF       |

Data bits to select LED color

X = set light effect

| Bit D3: Value            | Light effect                      |
|--------------------------|-----------------------------------|
| 0 (0xxx <sub>Bin</sub> ) | Fixed ON                          |
| 8 (1xxx <sub>Bin</sub> ) | Pulsating fading indication, 2 Hz |

Data bit 3 settings to control indicator light effect.

XXX = set LED color

#### Parameters

Parameters are not used.

#### Input data – Switch status

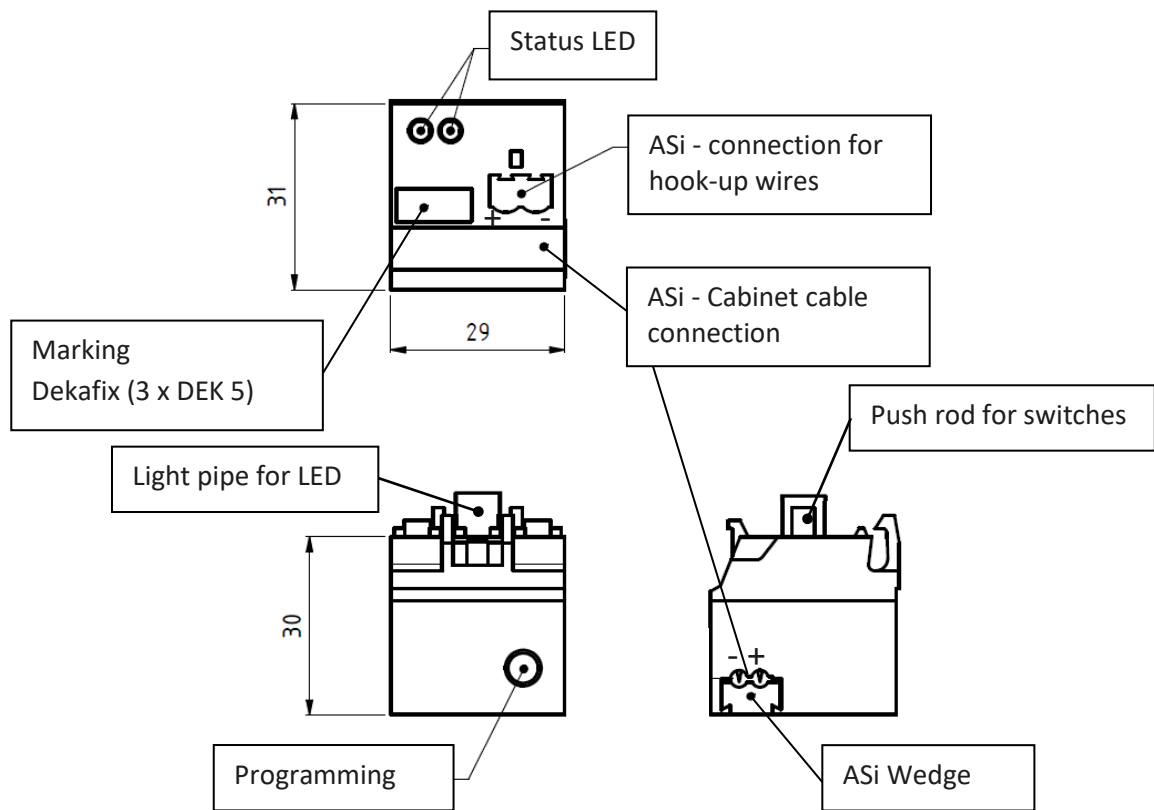
Input when master read cabinet module safety slave.

| Data bits |    |    |    | Switch status |      | Meaning   |
|-----------|----|----|----|---------------|------|-----------|
| D3        | D2 | D1 | D0 | SW 2          | SW 1 |           |
| 0         | 0  | 0  | 0  | X             | X    | Off-state |
| 0         | 0  | 1  | 1  | X             |      | Error     |
| 1         | 1  | 0  | 0  |               | X    | Error     |
| 1         | 1  | 1  | 1  |               |      | On-state  |

X = Switch Activated

Instead of the regular data provided at the data ports, a 4-bit data word from a specific 8 \* 4 bit code table is transmitted to the master. Each Cabinet safety module is programmed with its own code sequence which is unique.

Dimensions



### Spare parts and accessories

| Component   | Order number |
|---|--------------|
| Cabinet Module Wedge for ASi Cabinet Cable                          | 9001-00-01   |
| 2-way plug for connection of hook-up BUS wires to module            | 9002-00-01   |
| AS-Interface BUS Cabinet Cable FLIH 2x0.86/2.5, 2x18AWG (Helukabel) | 9003-00-01   |
| AS-Interface BUS Cabinet Cable FLIH 2x0.86/2.5, 2x18AWG (Leoni)     | 9003-00-02   |
| Dekafix markers (nn: 01=1-10, 02=11-20 ... 07=61-70, 08=A, 09=B)    | 9004-00-nn   |

More information about accessories can be found in document *Celpia Product Range*.

## Dismantling and disposal

### *EU Waste Electrical and Electronic Equipment (WEEE) Directive*

In August of 2005, the European Union (EU) implemented the EU WEEE Directive 2002/96/EC and later the WEEE Recast Directive 2012/19/EU requiring Producers of electronic and electrical equipment (EEE) to manage and finance the collection, reuse, recycling and to appropriately treat WEEE that the Producer places on the EU market after August 13, 2005. The goal of this directive is to minimize the volume of electrical and electronic waste disposal and to encourage re-use and recycling at the end of life.

If you have purchased Celpia-branded electrical or electronic products in the EU and are intending to discard these products at the end of their useful life, please do not dispose of them with your other household or municipal waste. Celpia AB has labeled its branded electronic products with the WEEE Symbol (figure 1) to alert our customers that a product

bearing this label should not be disposed of in a landfill or with municipal or household waste in the EU.



*Figure 1 WEEE symbol - crossed out wheeled bin*



Revision history

| Revision | Description                                 |
|----------|---|
| 00       | First release                               |
| 02       | Added order numbers to chapter Accessories. |
| 03       | Changed picture, added approvals pending    |
| 04       | Changed approvals status for CE             |
| 05       | Added 'class 2' beside Operating Voltage    |
| 06       | Updated technical data and description      |
| 07       | Updated layout                              |
| 08       | Updated illustrations                       |
| 09       | Changed approvals status for UL             |