

# TM3SAK6R

Modicon TM3 Safety module - 3 Function, Cat 4 PL e/SIL CL3 (screw) 24Vdc



## Main

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Range of product          | Modicon TM3 Safety                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Product or component type | Safety module                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Device short name         | TM3SAK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Safety module application | For emergency stop, switch, sensing mat/edges or safety light curtain monitoring                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Function of module        | Emergency stop monitoring 1-channel wiring<br>Emergency stop monitoring 2-channel wiring<br>Monitoring of a movable guard with 2 switches and automatic start<br>Monitoring of a movable guard<br>Multiple emergency stop monitoring 2-channel wiring<br>Proximity sensor monitoring PNP/PNP<br>Proximity sensor monitoring PNP/NPN<br>Sensing mat and edges monitoring<br>Monitoring of electro-sensitive protection equipment (ESPE) PNP/PNP<br>Monitoring of electro-sensitive protection equipment (ESPE) PNP/NPN |
| Safety level              | Can reach PL e/category 4 EN/ISO 13849-1 2008<br>Can reach PL e/category 4 EN/ISO 13849-2 2012<br>Can reach SILCL 3 EN/IEC 62061 2005<br>Can reach SIL 3 EN/IEC 61508 2010                                                                                                                                                                                                                                                                                                                                            |

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein. This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications. It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof. Neither Schneider Electric Industries SAS nor any of its affiliates or subsidiaries shall be responsible or liable for misuse of the information contained herein.

## Complementary

|                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Safety reliability data                     | DC = 95 % EN/ISO 13849-1<br>PFHd = 5E-9 1/h IEC 61508-1 1 operation/hour DC-13 24 V DC, <4 A<br>PFHd = 30E-9 1/h IEC 61508-1 60 operations/hour DC-13 24 V DC, <1 A<br>MTTFd = 500 years EN/ISO 13849-1 1 operation/hour DC-13 24 V DC, <4 A<br>MTTFd = 85 years EN/ISO 13849-1 60 operations/hour DC-13 24 V DC, <1 A<br>SFF = 95 % IEC 61508-1<br>HFT = 1 IEC 61508-1<br>Type = A IEC 61508-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Synchronisation time between inputs         | Unlimited<br>2 or 4 s depending of wiring configurable by software                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Connections - terminals                     | Captive screw clamp terminals, removable terminal block 1 x 0.2...1 x 2.5 mm <sup>2</sup> flexible without cable end 13-14, 23-24, 33-34<br>Captive screw clamp terminals, removable terminal block 1 x 0.2...1 x 2.5 mm <sup>2</sup> solid without cable end 13-14, 23-24, 33-34<br>Captive screw clamp terminals, removable terminal block 1 x 0.25...1 x 2.5 mm <sup>2</sup> flexible with cable end, with bezel 13-14, 23-24, 33-34<br>Captive screw clamp terminals, removable terminal block 1 x 0.25...1 x 2.5 mm <sup>2</sup> flexible with cable end, without bezel 13-14, 23-24, 33-34<br>Captive screw clamp terminals, removable terminal block 2 x 0.2...2 x 1.5 mm <sup>2</sup> flexible without cable end 13-14, 23-24, 33-34<br>Captive screw clamp terminals, removable terminal block 2 x 0.2...2 x 1.5 mm <sup>2</sup> solid without cable end 13-14, 23-24, 33-34<br>Captive screw clamp terminals, removable terminal block 2 x 0.25...2 x 1 mm <sup>2</sup> flexible with cable end, without bezel 13-14, 23-24, 33-34<br>Captive screw clamp terminals, removable terminal block 2 x 0.5...2 x 1.5 mm <sup>2</sup> flexible with cable end, with double bezel 13-14, 23-24, 33-34<br>Captive screw clamp terminals, removable terminal block 1 x 0.14...1 x 1.5 mm <sup>2</sup> flexible without cable end other terminals<br>Captive screw clamp terminals, removable terminal block 1 x 0.14...1 x 1.5 mm <sup>2</sup> solid without cable end other terminals<br>Captive screw clamp terminals, removable terminal block 1 x 0.25...1 x 0.5 mm <sup>2</sup> flexible with cable end, with bezel other terminals<br>Captive screw clamp terminals, removable terminal block 1 x 0.25...1 x 1.5 mm <sup>2</sup> flexible with cable end, without bezel other terminals<br>Captive screw clamp terminals, removable terminal block 2 x 0.14...2 x 0.5 mm <sup>2</sup> flexible without cable end other terminals<br>Captive screw clamp terminals, removable terminal block 2 x 0.14...2 x 0.75 mm <sup>2</sup> solid without cable end other terminals<br>Captive screw clamp terminals, removable terminal block 2 x 0.25...2 x 0.34 mm <sup>2</sup> flexible with cable end, without bezel other terminals<br>Captive screw clamp terminals, removable terminal block 2 x 0.5 mm <sup>2</sup> flexible with cable end, with double bezel other terminals |
| Output type                                 | Relay instantaneous opening, 3 NO, potential free                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Number of safety circuits                   | 3 NO relay instantaneous opening                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Maximum switching voltage                   | 230 V AC-15 50 Hz relay instantaneous opening)<br>24 V DC-13 relay instantaneous opening)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| [Us] rated supply voltage                   | 24 V - 15...20 % DC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Power consumption in W                      | 0.2 W 5 V DC<br>3.6 W 24 V DC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Input protection type                       | Internal, electronic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| [Uc] control circuit voltage                | 24 V DC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Maximum cable distance between devices      | 98.43 ft (30 m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Breaking capacity                           | 360 VA holding AC-15 B300 relay output<br>3600 VA inrush AC-15 B300 relay output                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Breaking capacity                           | 4 A 24 V 50 ms DC-13 relay output                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Output thermal current                      | 6 A per relay relay output                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| [Ith] conventional free air thermal current | 18 A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Associated fuse rating                      | 4 A gG or gL relay output EN/IEC 60947-5-1<br>6 A fast blow relay output EN/IEC 60947-5-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Minimum output current                      | 10 mA relay output                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Output voltage                              | 10 V relay output                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Maximum response time on input open         | 40 ms                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| [Ui] rated insulation voltage               | 300 V 2) IEC 60647-5-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| [Uimp] rated impulse withstand voltage      | 4 kV III IEC 60647-5-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Current consumption                         | 100 mA 24 V DC external supply                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Local signalling                            | User 8 LEDs green/red)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Electrical connection                       | Screw terminal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product compatibility         | Safety light curtains EN/IEC 61496-1 (type 4)<br>Sensing mat/edges EN 1760-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Standards                     | EN/ISO 13849-1:2008<br>EN/ISO 13849-2:2012<br>EN/IEC 62061:2005<br>EN/IEC 61508:2010<br>EN/IEC 60947-5-1:2010<br>EN/IEC 61131-2:2007<br>EN/IEC 60204-1:2005<br>EN/IEC 60204-1:2009/A1<br>IEC 61010-1:2010<br>EN 50581:2012                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Product certifications        | TÜV<br>UL 61010-2-201<br>EAC<br>CSA Haz Loc Class 1 Division 2 (pending)<br>CSA 61010-2-201 (pending)<br>RCM<br>ANSI Haz Loc Class 1 Division 2 (pending)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Marking                       | UL<br>CE<br>RCM<br>EAC<br>EFUP 10<br>TÜV<br>CSA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Electromagnetic compatibility | Electrostatic discharge immunity test - test level: 8 kV (air discharge) conforming to EN/IEC 61000-4-2<br>Electrostatic discharge immunity test - test level: 6 kV (contact discharge) conforming to EN/IEC 61000-4-2<br>Susceptibility to electromagnetic fields 10 V/m 80 MHz to 1 GHz) EN/IEC 61000-4-3<br>Susceptibility to electromagnetic fields 3 V/m 1.4 GHz...2 GHz) EN/IEC 61000-4-3<br>Susceptibility to electromagnetic fields 1 V/m 2 GHz...3 GHz) EN/IEC 61000-4-3<br>Magnetic field at power frequency 30 A/m 50...60 Hz) EN/IEC 61000-4-8<br>Electrical fast transient/burst immunity test 3 kV power lines (DC)) EN/IEC 61000-4-4<br>Electrical fast transient/burst immunity test 2 kV I/O) EN/IEC 61000-4-4<br>1.2/50 µs shock waves immunity test - test level: 1 kV (power lines (DC)) conforming to EN/IEC 61000-4-5<br>Conducted RF disturbances - test level: 10 V (0.15...80 MHz) conforming to EN/IEC 61000-4-6<br>Radiated emission 40 dBµV/m 24 V)class A EN 55011<br>Radiated emission 47 dBµV/m 24 V)class A EN 55011 |
| Mounting support              | Top hat type TH35-7.5 rail IEC 60715<br>Top hat type TH35-15 rail IEC 60715<br>Wall mount using attached fasteners                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Height                        | 3.70 in (94 mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Depth                         | 2.87 in (73 mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Maximum Width                 | 1.72 in (43.7 mm)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Net Weight                    | 0.42 lb(US) (0.19 kg)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

## Environment

|                                       |                                                                                                                                                           |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards                             | EN/IEC 60947-1<br>EN 60204-1<br>EN 1088/ISO 14119<br>EN/IEC 60947-5-1<br>EN/ISO 13850                                                                     |
| Resistance to electrostatic discharge | 8 kV in air EN/IEC 61000-4-2<br>6 kV on contact EN/IEC 61000-4-2                                                                                          |
| Resistance to electromagnetic fields  | 9.14 V/M (10 V/m) 80 MHz...1 GHz EN/IEC 61000-4-3<br>2.74 V/M (3 V/m) 1.4 GHz...2 GHz EN/IEC 61000-4-3<br>0.91 V/m (1 V/m) 2 GHz...3 GHz EN/IEC 61000-4-3 |
| Resistance to magnetic fields         | 30 A/m 50/60 Hz conforming to EN/IEC 61000-4-8                                                                                                            |
| Resistance to fast transients         | 3 kV power lines (DC) DC)EN/IEC 61000-4-4<br>2 kV I/O linesEN/IEC 61000-4-4                                                                               |
| Surge withstand                       | 1 kV power lines (DC) differential mode EN/IEC 61000-4-5 DC<br>1 kV power lines (DC) common mode EN/IEC 61000-4-5 DC                                      |
| Resistance to conducted disturbances  | 10 V 0.15...80 MHz EN/IEC 61000-4-6                                                                                                                       |
| Electromagnetic emission              | Radiated emissions 50 dBµV/m class A 24 V DC)30...230 Hz IEC 61131-3<br>Radiated emissions 57 dBµV/m class A 24 V DC)230...1000 Hz IEC 61131-3            |

|                                       |                                                                                                |
|---------------------------------------|------------------------------------------------------------------------------------------------|
| Ambient air temperature for operation | 14...131 °F (-10...55 °C) horizontal installation                                              |
| Ambient air temperature for storage   | -13...158 °F (-25...70 °C)                                                                     |
| Relative humidity                     | 10...95 %, without condensation (in operation)<br>10...95 %, without condensation (in storage) |
| IP degree of protection               | IP20 terminals)EN/IEC 60529                                                                    |
| Pollution degree                      | 2                                                                                              |
| Operating altitude                    | 0...6561.68 ft (0...2000 m)                                                                    |
| Storage altitude                      | 0.00...9842.52 ft (0...3000 m)                                                                 |
| Vibration resistance                  | +/- 3.5 mm 5...150 Hz)IEC 60068-2-6                                                            |
| Shock resistance                      | 15 gn 11 ms IEC 60068-2-27                                                                     |
| Mechanical robustness                 | Bumps 6 ms 300 shocks 25 gn) IEC 60068-2-27                                                    |

## Ordering and shipping details

|                       |                                |
|-----------------------|--------------------------------|
| Category              | 22533 - M2XX PLC & ACCESSORIES |
| Discount Schedule     | MSX                            |
| GTIN                  | 00785901968733                 |
| Nbr. of units in pkg. | 1                              |
| Package weight(Lbs)   | 0.61 lb(US) (0.28 kg)          |
| Returnability         | Yes                            |
| Country of origin     | DE                             |

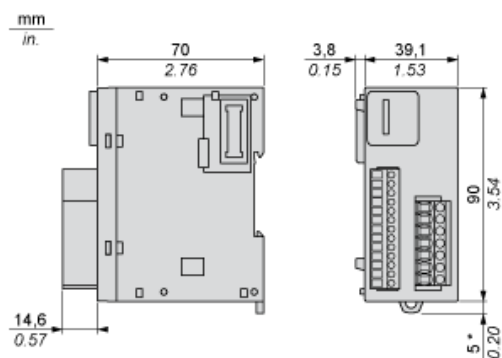
## Packing Units

|                              |                         |
|------------------------------|-------------------------|
| Unit Type of Package 1       | PCE                     |
| Package 1 Height             | 2.95 in (7.5 cm)        |
| Package 1 width              | 4.17 in (10.6 cm)       |
| Package 1 Length             | 4.92 in (12.5 cm)       |
| Unit Type of Package 2       | S03                     |
| Number of Units in Package 2 | 18                      |
| Package 2 Weight             | 12.18 lb(US) (5.526 kg) |
| Package 2 Height             | 11.81 in (30 cm)        |
| Package 2 width              | 11.81 in (30 cm)        |
| Package 2 Length             | 15.75 in (40 cm)        |

## Offer Sustainability

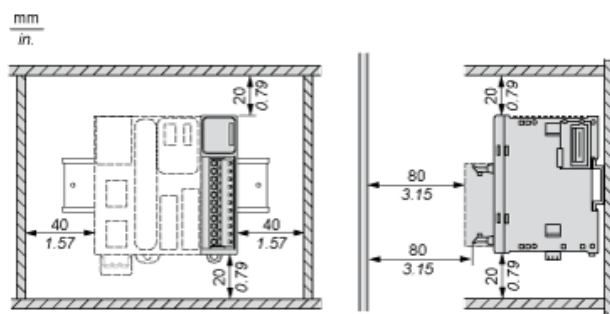
|                            |                                                                                                                                                                                                                                                                                             |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sustainable offer status   | Green Premium product                                                                                                                                                                                                                                                                       |
| California proposition 65  | WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a> |
| REACH Regulation           | <a href="#">REACH Declaration</a>                                                                                                                                                                                                                                                           |
| EU RoHS Directive          | Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>                                                                                                                                                                                              |
| Mercury free               | Yes                                                                                                                                                                                                                                                                                         |
| RoHS exemption information | <a href="#">Yes</a>                                                                                                                                                                                                                                                                         |
| China RoHS Regulation      | <a href="#">China RoHS Declaration</a>                                                                                                                                                                                                                                                      |
| Environmental Disclosure   | <a href="#">Product Environmental Profile</a>                                                                                                                                                                                                                                               |
| Circularity Profile        | <a href="#">End Of Life Information</a>                                                                                                                                                                                                                                                     |
| WEEE                       | The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins.                                                                                                                                                                |
| PVC free                   | Yes                                                                                                                                                                                                                                                                                         |

## Dimensions

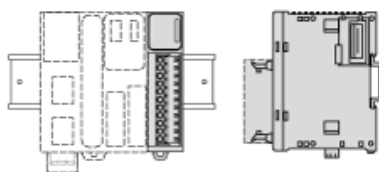


(\*) 8.5 mm/0.33 in when the clamp is pulled out.

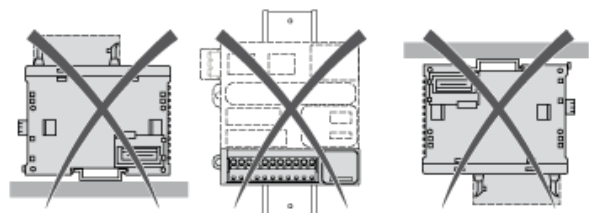
## Spacing Requirements



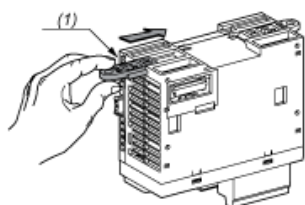
## Mounting on a Rail



## Incorrect Mounting

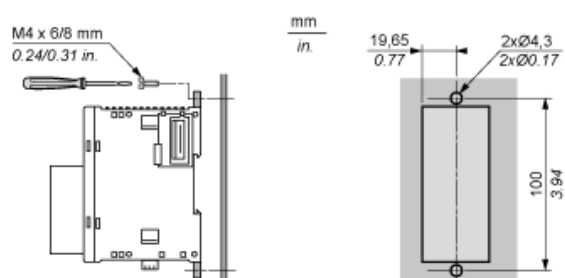


## Mounting on a Panel Surface

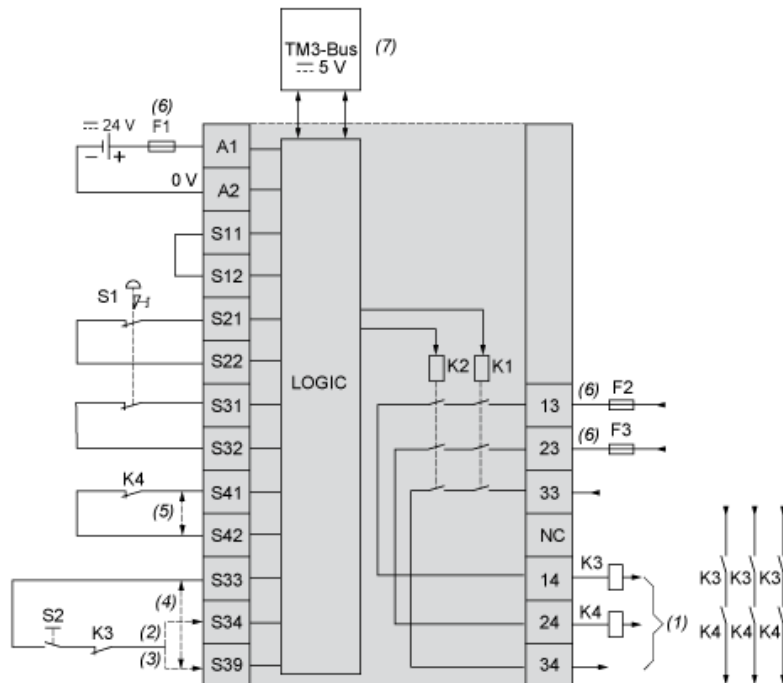


- (1) Install a mounting strip

## Mounting Hole Layout

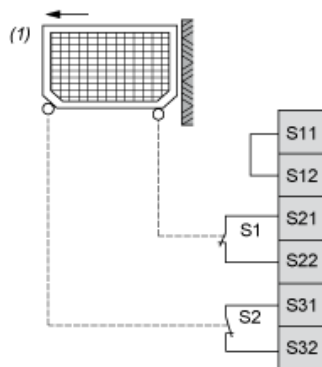


## Emergency Stop Wiring Diagram



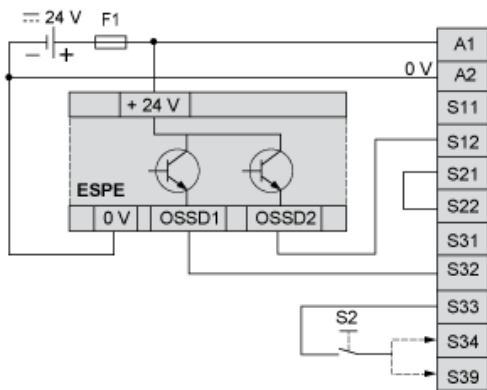
- S1 : Emergency stop switch  
S2 : Start switch  
(1) Safety outputs  
(2) Monitored start  
(3) Non-monitored start  
(4) For automatic start, directly connect [S33] and [S39] terminals  
(5) Second external device monitoring channel. Connect [S41] and [S42] terminals if not used  
(6) Fuses. Refer to technical specifications for fuse values  
(7) Non-safety related TM3 Bus communication with logic controller

## Protective Guard Wiring



- (1) Protective guard

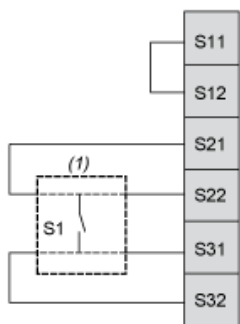
## Electro-Sensitive Protective Equipment (ESPE) Wiring



S2: Start switch

NOTE: The ESPE must be supplied by the same PELV/SELV power supply as the safety module.

## Safety-Mat Wiring

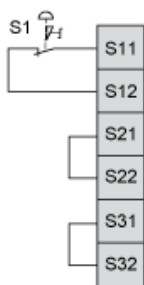


(1) Safety-mat

NOTE: Normally, most safety-mats are maladapted for use in combination with the automatic start mode. In addition, if you use the safety-mat in your application which includes the automatic startmode, you should consider this in your risk analysis.

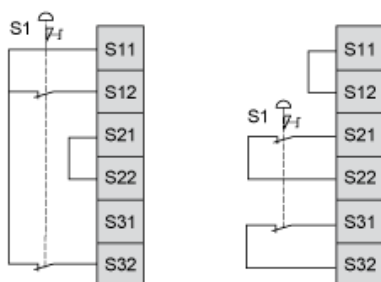
## Emergency Stop Wiring

### One Channel



S1: Emergency stop switch

### Two Channel

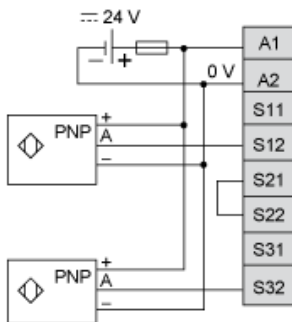


S1: Emergency stop switch

NOTE: Inputs S11 and S12 are not intended for the monitoring of short circuits in external wiring.

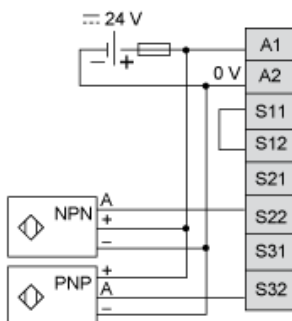


### Without Short Circuit Detection



NOTE: The sensors must be supplied by the same PELV/SELV power supply as the safety module.

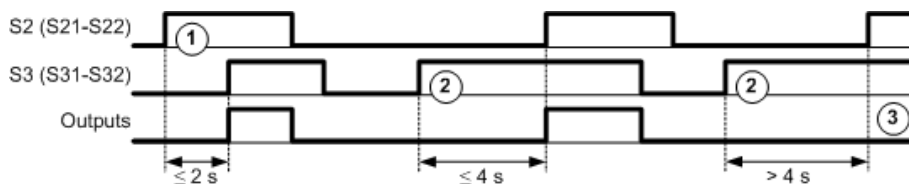
### With Short Circuit Detection



NOTE: The sensors must be supplied by the same PELV/SELV power supply as the safety module.

## Synchronization Time Monitoring Chronogram

### 2 Channel Application



- 1 : S2 operated before S3
- 2 : S3 operated before S2
- 3 : Outputs are not activated because the synchronization time is expired.