



FAIL-SAFE DIGITAL MODULE DM-F LOCAL;  
FOR FAIL-SAFE SWITCH-OFF VIA HARDWARE SIGNAL;  
UV: 24 V DC, 2 RELAY ENABLING CIRCUITS;  
2 RELAY OUTPUTS;  
SAFETY FUNCTION CAN BE SELECTED VIA DIL SWITCH;  
MAX. ERR. SIL (IEC 61508): 3;  
MAX. ERR. PL (ISO 13849-1): E;

| General technical data:                                                                     |  |                                    |
|---------------------------------------------------------------------------------------------|--|------------------------------------|
| product brand name                                                                          |  | SIRIUS                             |
| product designation                                                                         |  | DM-FL                              |
| Design of the product                                                                       |  | for emergency off and safety doors |
| Item designation / according to DIN EN 61346-2                                              |  | F                                  |
| Item designation / according to DIN 40719 extendable after IEC 204-2 / according to IEC 750 |  | KT                                 |

| Installation/mounting/dimensions: |    |                            |
|-----------------------------------|----|----------------------------|
| mounting position                 |    | any                        |
| Type of mounting                  |    | screw and snap-on mounting |
| Width                             | mm | 45                         |
| Height                            | mm | 106                        |
| Depth                             | mm | 124                        |

| Connections:                                                                    |     |                      |
|---------------------------------------------------------------------------------|-----|----------------------|
| Design of the electrical connection / for auxiliary and control current circuit |     | screw-type terminals |
| Conductor cross-section that can be connected / for auxiliary contact           |     |                      |
| • solid                                                                         | mm² | 0.5 ... 4            |
| • finely stranded                                                               |     |                      |

- with conductor end processing

mm<sup>2</sup> 0.5 ... 2.5

#### Ambient conditions:

##### Ambient temperature

- during operating
- during storage
- during transport

°C -25 ... +60  
°C -40 ... +80  
°C -40 ... +80

##### Relative humidity

- during operating phase

% 5 ... 95

##### Installation altitude / at a height over sea level / maximum

m 2,000

##### Protection class IP

IP20

##### Resistance against vibration

1-6 Hz / 15 mm; 6-500 Hz / 2 g

##### EMC immunity to interference / according to IEC 60947-1

corresponds to degree of severity 3

##### Conductor-bound parasitic coupling BURST

2 kV network connection / 1 kV control connection

##### Conductor-bound parasitic coupling conductor-earth SURGE

- according to IEC 61000-4-5

1 kV

##### Conductor-bound parasitic coupling conductor-conductor SURGE

- according to IEC 61000-4-5

0.5 kV

##### Field-bound parasitic coupling

- according to IEC 61000-4-3

10 V/m

##### EMC emitted interference / according to IEC 60947-1

class A

##### Insulation voltage / rated value

V 300

##### Impulse voltage resistance / rated value

V 4,000

#### Safety:

##### Safety Integrity Level (SIL) / according to IEC 61508

SIL3

##### Performance level (PL) / according to ISO 13849-1

e

##### Category / according to EN 954-1

4

##### Category / according to ISO 13849-1

4

##### Stop category / according to DIN EN 60204-1

0

##### Product function

- emergency stop function
- automatic start
- monitored start-up
- light barrier monitoring
- protective door monitoring
- magnetic switch monitoring Normally closed contact-Normally open contact
- light grid monitoring

Yes  
Yes  
Yes  
Yes  
Yes  
Yes  
Yes

|                                                                                                          |     |                                |
|----------------------------------------------------------------------------------------------------------|-----|--------------------------------|
| • magnetic switch monitoring Normally closed contact-Normally closed contact                             |     | Yes                            |
| • step mat monitoring                                                                                    |     | Yes                            |
| <b>Acceptability for application</b>                                                                     |     |                                |
| • EMERGENCY-OFF circuit monitoring                                                                       |     | Yes                            |
| • safety-related circuits                                                                                |     | Yes                            |
| • position switch monitoring                                                                             |     | Yes                            |
| • safety cut-out switch                                                                                  |     | Yes                            |
| • magnetically operated switches monitoring                                                              |     | Yes                            |
| • proximity switches monitoring                                                                          |     | No                             |
| • tactile sensor monitoring                                                                              |     | No                             |
| • opto-electronical protection device monitoring                                                         |     | Yes                            |
| • valve monitoring                                                                                       |     | No                             |
| <b>Type of the safety-related wiring / of the inputs</b>                                                 |     | single-channel and two-channel |
| <b>Product feature / transverse contact-secure</b>                                                       |     | Yes                            |
| <b>Design of the input / start input</b>                                                                 |     | Yes                            |
| <b>Design of the input / feedback input</b>                                                              |     | Yes                            |
| <b>Design of the cascading</b>                                                                           |     | cascading                      |
| <b>Design of the input / cascading-input/functional switching</b>                                        |     | Yes                            |
| <b>Probability of dangerous failure per hour (PFHD) / with high demand rate / according to EN 62061</b>  | 1/h | 0.453E-8                       |
| <b>Average probability of failure on demand (PFDavg) / with low demand rate / according to IEC 61508</b> | 1/y | 0.539E-5                       |
| <b>SIL claim limit (for a subsystem) / according to EN 62061</b>                                         |     | 3                              |
| <b>T1 value / for proof test interval or service life / according to IEC 61508</b>                       | a   | 20                             |
| <b>Make time</b>                                                                                         |     |                                |
| • with automatic start                                                                                   |     |                                |
| • typical                                                                                                | ms  | 50                             |
| • for DC / maximum                                                                                       | ms  | 100                            |
| • after mains power cut                                                                                  |     |                                |
| • typical                                                                                                | ms  | 8,000                          |
| • maximum                                                                                                | ms  | 8,200                          |
| • with monitored start                                                                                   |     |                                |
| • typical                                                                                                | ms  | 50                             |
| • maximum                                                                                                | ms  | 100                            |
| <b>Backslide delay time / after opening of the safety circuits / typical</b>                             | ms  | 50                             |
| <b>Backslide delay time / at mains power cut / typical</b>                                               | ms  | 40                             |
| <b>Backslide delay time / at mains power cut / maximum</b>                                               | ms  | 80                             |
| <b>Recovery time / after opening of the safety circuits / typical</b>                                    | ms  | 250                            |

|                                                        |    |     |
|--------------------------------------------------------|----|-----|
| <b>Recovery time / after mains power cut / typical</b> | s  | 8   |
| <b>Pulse duration</b>                                  |    |     |
| • of the sensor input / minimum                        | ms | 30  |
| • of the ON pushbutton input / minimum                 | s  | 0.2 |
| • of the cascading-entrance / minimum                  | s  | 0.2 |

| <b>Inputs/ Outputs:</b>                                                                                                     |     |                                      |
|-----------------------------------------------------------------------------------------------------------------------------|-----|--------------------------------------|
| <b>Number of inputs</b>                                                                                                     |     | 5                                    |
| <b>Number of digital inputs</b>                                                                                             |     | 0                                    |
| <b>Number of analog inputs</b>                                                                                              |     | 0                                    |
| <b>Number of sensor inputs / 2-channel</b>                                                                                  |     | 1                                    |
| <b>Number of sensor inputs / 1-channel or 2-channel</b>                                                                     |     | 1                                    |
| <b>Number of outputs</b>                                                                                                    |     | 2                                    |
| <b>Number of outputs / as contact-affected switching element</b>                                                            |     | 2                                    |
| <b>Switching behaviour</b>                                                                                                  |     | monostable                           |
| <b>Number of analog outputs</b>                                                                                             |     | 0                                    |
| <b>Number of outputs / as contact-affected switching element / as NO contact / safety-related / instantaneous switching</b> |     | 2                                    |
| <b>Type of input characteristic</b>                                                                                         |     | Type 2 in accordance with EN 61131-2 |
| <b>Cable length / between sensor and electronic evaluation device / with Cu 1.5 mm<sup>2</sup> and 150 nF/km / maximum</b>  | m   | 1,500                                |
| <b>Cable length / for digital signals / maximum</b>                                                                         | m   | 300                                  |
| <b>Mechanical operating cycles as operating time / typical</b>                                                              |     | 10,000,000                           |
| <b>Electrical operating cycles as operating time / typical</b>                                                              |     | 100,000                              |
| <b>Operating cycles / maximum</b>                                                                                           | 1/h | 360                                  |
| <b>Switching capacity current</b>                                                                                           |     |                                      |
| • of the NO contacts of the relay outputs                                                                                   |     |                                      |
| • at AC-15                                                                                                                  |     |                                      |
| • at 24 V                                                                                                                   | A   | 3                                    |
| • at 120 V                                                                                                                  | A   | 3                                    |
| • at 240 V                                                                                                                  | A   | 1.5                                  |
| • at DC-13                                                                                                                  |     |                                      |
| • at 24 V                                                                                                                   | A   | 4                                    |
| • at 60 V                                                                                                                   | A   | 0.55                                 |
| • at 125 V                                                                                                                  | A   | 0.22                                 |
| • at 250 V                                                                                                                  | A   | 0.11                                 |
| • of relay enabling circuits                                                                                                |     |                                      |
| • for AC-15                                                                                                                 |     |                                      |
| • at 24 V                                                                                                                   | A   | 3                                    |
| • at 120 V                                                                                                                  | A   | 3                                    |

|                                                                                                                                                                 |   |            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|---|------------|
| <ul style="list-style-type: none"> <li>• at 240 V</li> <li>• for DC-13</li> <li>• at 24 V</li> <li>• at 60 V</li> <li>• at 125 V</li> <li>• at 250 V</li> </ul> | A | 1.5        |
|                                                                                                                                                                 | A | 4          |
|                                                                                                                                                                 | A | 0.55       |
|                                                                                                                                                                 | A | 0.22       |
|                                                                                                                                                                 | A | 0.11       |
| <b>Design of fuse link / for short-circuit protection of relay enabling circuits / required</b>                                                                 |   | gL/gG: 4 A |
| <b>Thermal current / of the contact-affected switching element / maximum</b>                                                                                    | A | 5          |

| Control circuit:                                                                                                |    |           |
|-----------------------------------------------------------------------------------------------------------------|----|-----------|
| <b>Type of voltage / of the controlled supply voltage</b>                                                       |    | DC        |
| <b>Control supply voltage</b> <ul style="list-style-type: none"> <li>• for DC</li> <li>• rated value</li> </ul> | V  | 24 ... 24 |
| <b>Active power loss / at 24V / for DC / typical</b>                                                            | W  | 3         |
| <b>Stored energy time / at mains power cut</b>                                                                  | ms | 60        |

| Certificates/approvals:                                                                                                                                           |            |                                                                 |                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-----------------------------------------------------------------|--------------------------|
| <b>Verification of suitability</b> <ul style="list-style-type: none"> <li>• UL-registration</li> <li>• TÜV (German technical inspectorate) certificate</li> </ul> |            | CE / UL / CSA / C-TICK / GOST / NOM / ATEX / RoHS<br>Yes<br>Yes |                          |
| <b>General Product Approval</b>                                                                                                                                   | <b>EMC</b> | <b>For use in hazardous locations</b>                           | <b>Test Certificates</b> |



CSA



GOST



UL



C-TICK

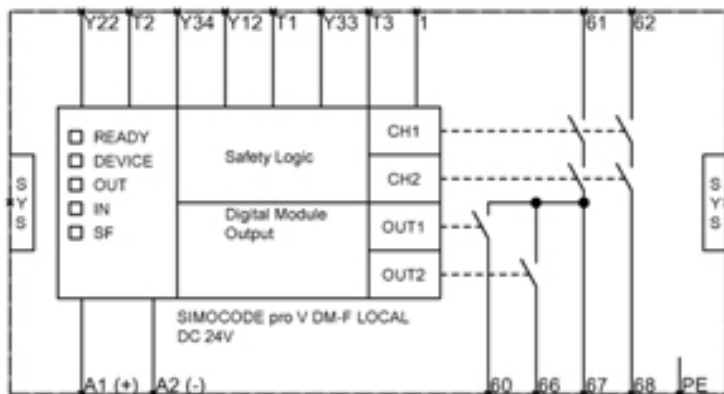
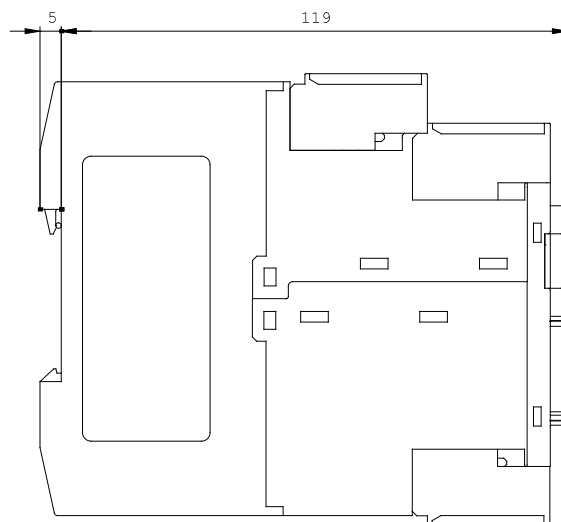
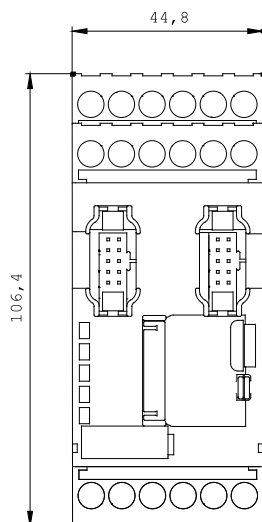


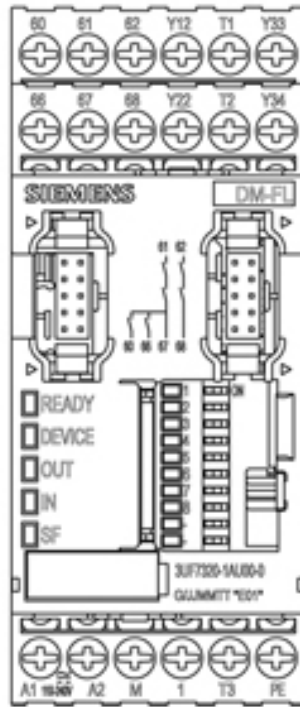
ATEX

[Special Test Certificate](#)

|                          |                                                                                                                                                |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Shipping Approval</b> | <b>other</b>                                                                                                                                   |
| <br>GL                   | <a href="#">Declaration of Conformity</a><br><br>Profibus<br><a href="#">PROFINET-Certification</a><br><a href="#">PROFISafe-Certification</a> |

| Further information:                                                                                                                                                                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Information- and Downloadcenter (Catalogs, Brochures,...)</b><br><a href="http://www.siemens.com/industrial-controls/catalogs">http://www.siemens.com/industrial-controls/catalogs</a>                                                |
| <b>Industry Mall (Online ordering system)</b><br><a href="http://www.siemens.com/industrial-controls/mall">http://www.siemens.com/industrial-controls/mall</a>                                                                           |
| <b>Cax online generator</b><br><a href="http://www.siemens.com/cax">http://www.siemens.com/cax</a>                                                                                                                                       |
| <b>Service&amp;Support (Manuals, Certificates, Characteristics, FAQs,...)</b><br><a href="http://support.automation.siemens.com/WW/view/en/3UF7320-1AB00-0/all">http://support.automation.siemens.com/WW/view/en/3UF7320-1AB00-0/all</a> |





last change:

Feb 18, 2013