

Fail-safe digital module DM-F local, for fail-safe shutdown via hardware signal Us: 24 V DC 2 relay enabling circuits, 2 relay outputs, safety function can be set via DIP switch, maximum achievable SIL IEC 61508: 3, maximum achievable PL ISO 13849-1: E



|                          |                                    |
|--------------------------|------------------------------------|
| Product brand name       | SIRIUS                             |
| Product designation      | Fail-safe digital module           |
| Design of the product    | for emergency off and safety doors |
| Product type designation | DM-FL                              |

| General technical data   |                                |
|--|--------------------------------|
| <b>Product component</b>   |                                |
| <ul style="list-style-type: none"> <li>input for thermistor connection</li> </ul>      | No                             |
| <ul style="list-style-type: none"> <li>input for analog temperature sensors</li> </ul> | No                             |
| <ul style="list-style-type: none"> <li>input for ground fault detection</li> </ul>     | No                             |
| <b>Insulation voltage</b>  |                                |
| <ul style="list-style-type: none"> <li>rated value</li> </ul>                          | 300 V                          |
| <b>Surge voltage resistance rated value</b>  | 4 000 V                        |
| <b>Protection class IP</b>   | IP20                           |
| <b>Vibration resistance</b>  | 1-6 Hz / 15 mm; 6-500 Hz / 2 g |
| <b>Operating frequency maximum</b>   | 360 1/h                        |
| <b>Switching capacity current of the NO contacts of the relay outputs at AC-15</b>     |                                |
| <ul style="list-style-type: none"> <li>at 24 V</li> </ul>                              | 3 A                            |
| <ul style="list-style-type: none"> <li>at 120 V</li> </ul>                             | 3 A                            |

|  |                                      |
|--|--------------------------------------|
| <b>Switching capacity current of the NO contacts of the relay outputs at DC-13</b> |                                      |
| • at 24 V  | 4 A                                  |
| • at 60 V  | 0.55 A                               |
| • at 125 V   | 0.22 A                               |
| <b>Mechanical service life (switching cycles)</b>                                  |                                      |
| • typical  | 10 000 000                           |
| <b>Electrical endurance (switching cycles)</b>                                     |                                      |
| • typical  | 100 000                              |
| <b>Thermal current of the switching element with contacts maximum</b>              | 5 A                                  |
| <b>Buffering time in the event of power failure</b>                                | 60 ms                                |
| <b>Recovery time</b>   |                                      |
| • after power failure typical  | 8 s                                  |
| • after opening of the safety circuits typical                                     | 250 ms                               |
| <b>Reference code acc. to DIN EN 81346-2</b>                                       | F                                    |
| <b>Reference code acc. to DIN EN 61346-2</b>                                       | F                                    |
| <b>Type of input characteristic</b>  | Type 2 in accordance with EN 61131-2 |

#### Electromagnetic compatibility

|   |   |
|---|---|
| <b>EMC emitted interference</b>                             |   |
| • acc. to IEC 60947-1                                       | class A   |
| <b>EMI immunity acc. to IEC 60947-1</b>                     | corresponds to degree of severity 3               |
| <b>Conducted interference</b>                               |   |
| • due to burst acc. to IEC 61000-4-4                        | 2 kV network connection / 1 kV control connection |
| • due to conductor-earth surge acc. to IEC 61000-4-5        | 1 kV  |
| • due to conductor-conductor surge acc. to IEC 61000-4-5    | 0.5 kV  |
| <b>Field-bound parasitic coupling acc. to IEC 61000-4-3</b> | 10 V/m  |

#### Inputs/ Outputs

|  |     |
|--|-----|
| <b>Number of inputs</b>                | 5   |
| <b>Design of input</b>                 |     |
| • cascading input/functional switching | Yes |
| • feedback input                       | Yes |
| • Start input                          | Yes |
| <b>Number of digital inputs</b>        | 0   |
| <b>Number of analog inputs</b>         | 0   |
| <b>Number of sensor inputs</b>         |     |
| • 1-channel or 2-channel               | 1   |
| • 2-channel                            | 1   |
| <b>Number of outputs</b>               | 2   |

|   |            |
|---|------------|
| <b>Number of outputs as contact-affected switching element</b>  | 2          |
| <ul style="list-style-type: none"> <li>• as NO contact</li> <li>— safety-related instantaneous contact</li> </ul> | 2          |
| <b>Number of analog outputs</b>   | 0          |
| <b>Switching behavior</b>   | monostable |
| <b>Wire length for digital signals maximum</b>  | 1 500 m    |

#### Product Function

|  |            |
|--|------------|
| <b>Suitability for use</b>   |            |
| <ul style="list-style-type: none"> <li>• safety switch</li> <li>• safety-related circuits</li> </ul> | Yes<br>Yes |

#### Installation/ mounting/ dimensions

|                          |                            |
|--------------------------|----------------------------|
| <b>Mounting position</b> | any                        |
| <b>Mounting type</b>     | screw and snap-on mounting |
| <b>Height</b>            | 106 mm                     |
| <b>Width</b>             | 45 mm                      |
| <b>Depth</b>             | 124 mm                     |

#### Connections/Terminals

|   |                      |
|---|----------------------|
| <b>Type of electrical connection</b>  |                      |
| <ul style="list-style-type: none"> <li>• for auxiliary and control current circuit</li> </ul> | screw-type terminals |

#### Ambient conditions

|  |   |
|--|---|
| <b>Ambient temperature</b>   |   |
| <ul style="list-style-type: none"> <li>• during operation</li> <li>• during storage</li> <li>• during transport</li> </ul>   | -25 ... +60 °C<br>-40 ... +80 °C<br>-40 ... +80 °C  |
| <b>Environmental category</b>  |   |
| <ul style="list-style-type: none"> <li>• during operation acc. to IEC 60721</li> <li>• during storage acc. to IEC 60721</li> <li>• during transport acc. to IEC 60721</li> </ul> | 3K6 (no formation of ice, no condensation, relative humidity 10 ... 95%), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6<br>1K6 (no condensation, relative humidity 10 ... 95%), 1C2 (no salt mist), 1S2 (sand must not get into the devices), 1M4<br>2K2, 2C1, 2S1, 2M2 |
| <b>Relative humidity</b>   |   |
| <ul style="list-style-type: none"> <li>• during operation</li> </ul>   | 5 ... 95 %  |

#### Short-circuit protection

|  |            |
|--|------------|
| <b>Design of the fuse link</b>   |            |
| <ul style="list-style-type: none"> <li>• for short-circuit protection of relay enabling circuits required</li> </ul> | gL/gG: 4 A |

#### Safety related data

|  |                                |
|--|--------------------------------|
| <b>Type of the safety-related wiring of the inputs</b> | single-channel and two-channel |
| <b>Safety Integrity Level (SIL) acc. to IEC 61508</b>  | 3                              |

|  |                |
|--|----------------|
| Performance level (PL) acc. to EN ISO 13849-1  | e              |
| Stop category acc. to DIN EN 60204-1   | 0              |
| Safe failure fraction (SFF)  | 99 %           |
| PFHD with high demand rate acc. to EN 62061  | 0.00000001 1/h |
| Average probability of failure on demand (PFDavg) with low demand rate acc. to IEC 61508 | 0.00002 1/y    |
| T1 value for proof test interval or service life acc. to IEC 61508                       | 20 y           |
| Category acc. to EN 954-1  | 4              |

|   |             |
|---|-------------|
| <b>Control circuit/ Control</b>               |             |
| Type of voltage of the control supply voltage | DC          |
| Control supply voltage at DC                  |             |
| • rated value                                 | 24 ... 24 V |

**Certificates/approvals**

|                                 |            |                                       |
|---------------------------------|------------|---------------------------------------|
| <b>General Product Approval</b> | <b>EMC</b> | <b>For use in hazardous locations</b> |
|---------------------------------|------------|---------------------------------------|



|                                       |  |                                  |                          |                          |
|---------------------------------------|--|----------------------------------|--------------------------|--------------------------|
| <b>For use in hazardous locations</b> | <b>Functional Safety/Safety of Machinery</b> | <b>Declaration of Conformity</b> | <b>Test Certificates</b> | <b>Marine / Shipping</b> |
|---------------------------------------|--|----------------------------------|--------------------------|--------------------------|

[Explosion Protection Certificate](#)

[Type Examination](#)



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



|                          |              |
|--------------------------|--------------|
| <b>Marine / Shipping</b> | <b>other</b> |
|--------------------------|--------------|



[Confirmation](#)

[PROFINET-Certification](#)



|              |
|--------------|
| <b>other</b> |
|--------------|

[PROFIsafe-Certification](#)

## Further information

### Information- and Downloadcenter (Catalogs, Brochures,...)

<http://www.siemens.com/industrial-controls/catalogs>

### Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mfb=3UF7320-1AB00-0>

### Cax online generator

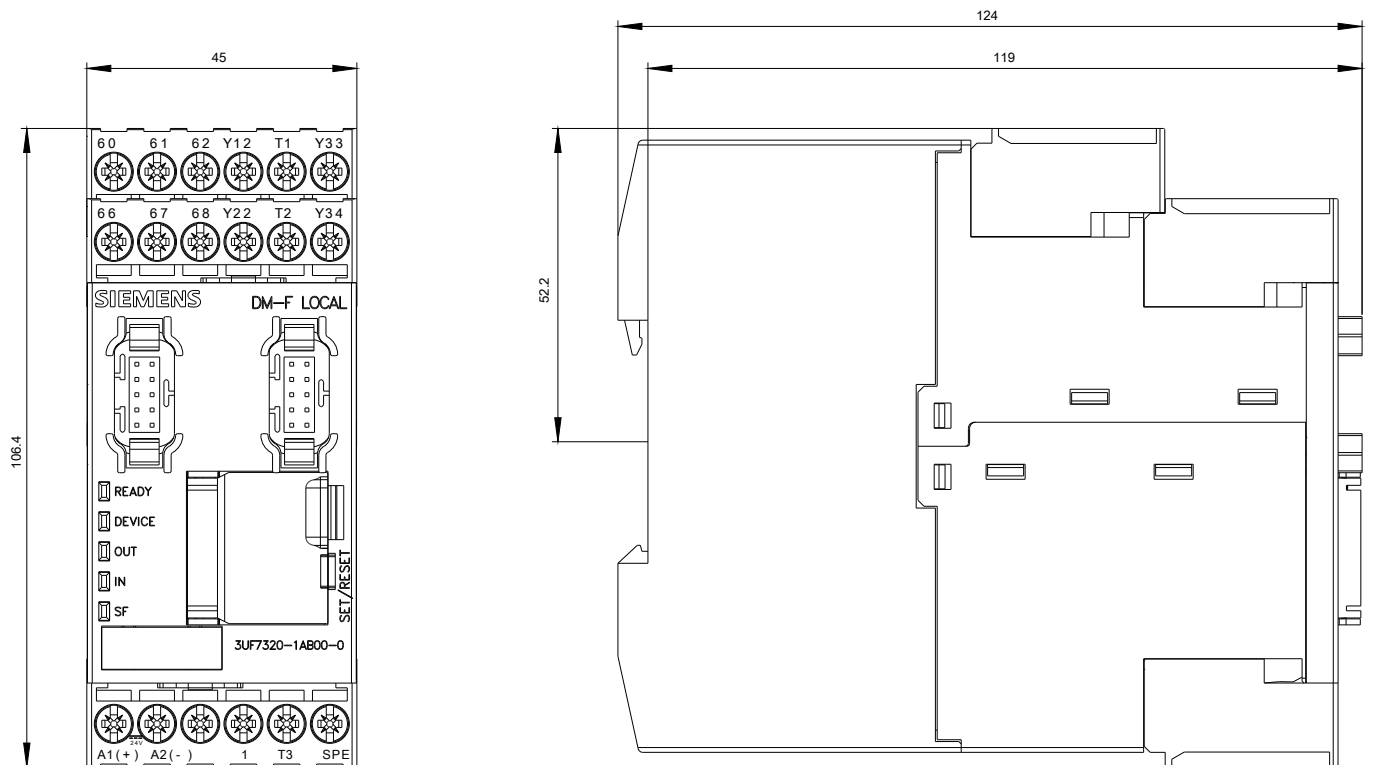
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mfb=3UF7320-1AB00-0>

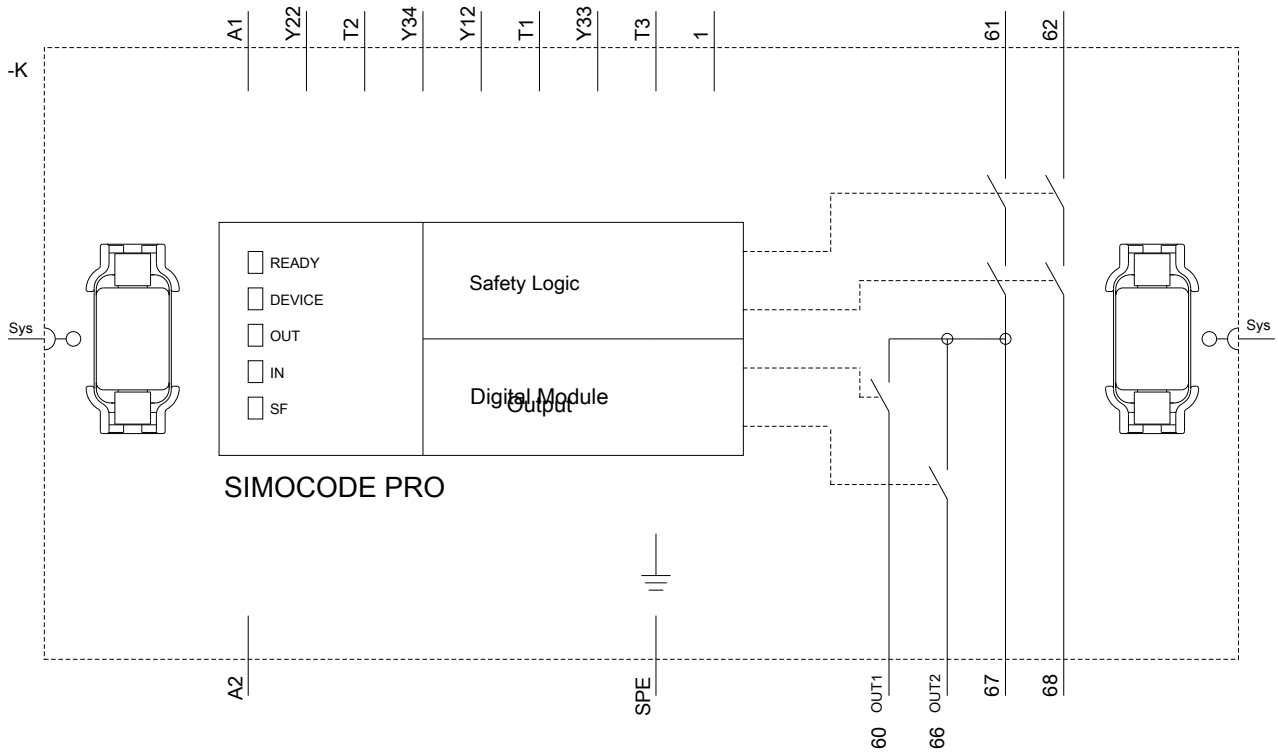
### Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

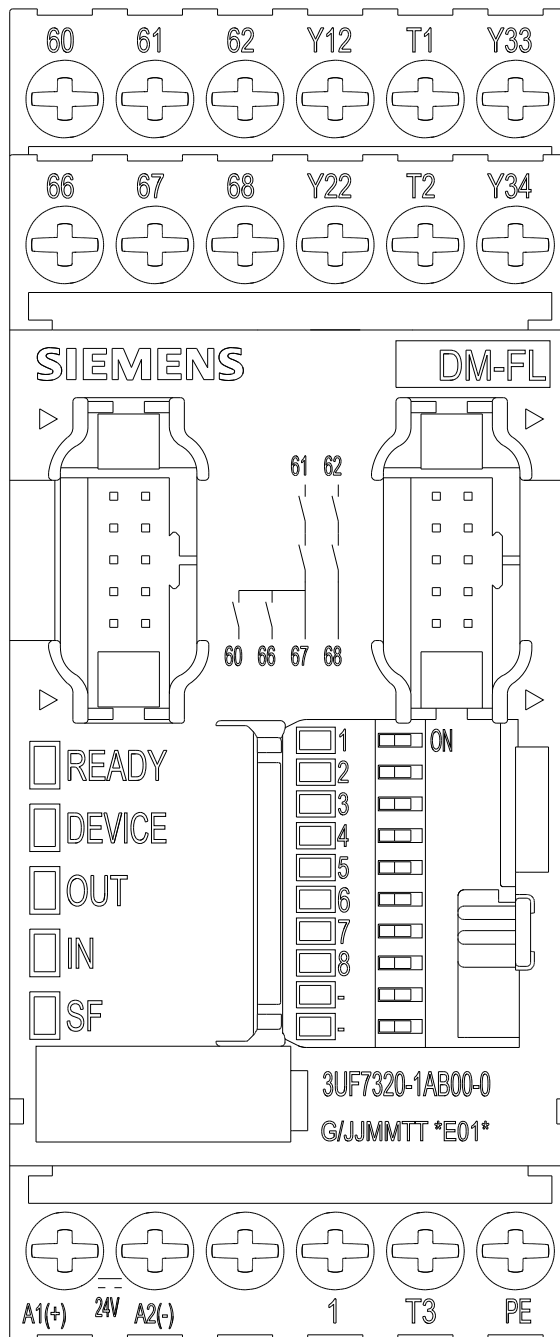
<https://support.industry.siemens.com/cs/ww/en/ps/3UF7320-1AB00-0>

### Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mfb=3UF7320-1AB00-0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mfb=3UF7320-1AB00-0&lang=en)







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