

Basic unit SIMOCODE pro V PN, Ethernet/PROFINET IO, PN system redundancy, OPC UA server, Web server, transmission rate 100 Mbps, 2 x bus connection via RJ45, 4I/3O freely parameterizable, Us: 110...240 V AC/DC, input for thermistor connection Monostable relay outputs, expandable by extension modules



<b>Product brand name</b>	SIRIUS
<b>Product designation</b>	Motor management system
<b>Design of the product</b>	basic unit 3
<b>Product type designation</b>	SIMOCODE pro V PN

**General technical data**

<b>Product function</b>	
• Bus communication	Yes
• data acquisition function	Yes
• Diagnostics function	Yes
• Password protection	Yes
• Test function	Yes
• maintenance function	Yes
<b>Product component</b>	
• input for thermistor connection	Yes
• Digital input	Yes
• input for analog temperature sensors	No
• input for ground fault detection	No
• Relay output	Yes

<b>Product extension</b>	
<ul style="list-style-type: none"> <li>• Temperature monitoring module</li> <li>• Current measuring module</li> <li>• Current/voltage measuring module</li> <li>• failsafe digital I/O module</li> <li>• Ground fault monitoring module</li> <li>• Control unit with display</li> <li>• Control unit</li> <li>• analog I/O module</li> </ul>	<ul style="list-style-type: none"> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> </ul>
<b>Consumed active power</b>	4.8 W
<b>Insulation voltage</b>	
<ul style="list-style-type: none"> <li>• with degree of pollution 3 rated value</li> </ul>	300 V
<b>Surge voltage resistance rated value</b>	4 000 V
<b>Protection class IP</b>	IP20
<b>Shock resistance</b>	
<ul style="list-style-type: none"> <li>• acc. to IEC 60068-2-27</li> </ul>	15g / 11 ms
<b>Vibration resistance</b>	1-6 Hz / 15 mm; 6-500 Hz / 2 g
<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> <li>• at 120 V</li> <li>• at 230 V</li> </ul>	<ul style="list-style-type: none"> <li>6 A</li> <li>6 A</li> <li>3 A</li> </ul>
<b>Switching capacity current of the NO contacts of the relay outputs at DC-13</b>	
<ul style="list-style-type: none"> <li>• at 24 V</li> <li>• at 60 V</li> <li>• at 125 V</li> </ul>	<ul style="list-style-type: none"> <li>2 A</li> <li>0.55 A</li> <li>0.25 A</li> </ul>
<b>Mechanical service life (switching cycles)</b>	
<ul style="list-style-type: none"> <li>• typical</li> </ul>	10 000 000
<b>Electrical endurance (switching cycles)</b>	
<ul style="list-style-type: none"> <li>• typical</li> </ul>	100 000
<b>Buffering time in the event of power failure</b>	0.02 s
<b>Reference code acc. to DIN EN 81346-2</b>	F
<b>Continuous current of the NO contacts of the relay outputs</b>	
<ul style="list-style-type: none"> <li>• at 50 °C</li> <li>• at 60 °C</li> </ul>	<ul style="list-style-type: none"> <li>6 A</li> <li>5 A</li> </ul>
<b>Type of input characteristic</b>	Type 1 in accordance with EN 61131-2
<b>Certificate of suitability</b>	
<ul style="list-style-type: none"> <li>• IECEx</li> </ul>	Yes
Explosion device group and category according to ATEX directive 2014/34/EU	II (2) G, II (2) D, I (M2) / I (1G/M2), II (1/2) G, II (1G/2D)

## Electromagnetic compatibility

<b>EMC emitted interference</b>	
<ul style="list-style-type: none"> <li>• acc. to IEC 60947-1</li> </ul>	class A
<b>EMI immunity acc. to IEC 60947-1</b>	corresponds to degree of severity 3
<b>Conducted interference</b>	
<ul style="list-style-type: none"> <li>• due to burst acc. to IEC 61000-4-4</li> </ul>	2 kV (power ports) / 1 kV (signal ports)
<ul style="list-style-type: none"> <li>• due to conductor-earth surge acc. to IEC 61000-4-5</li> </ul>	2 kV
<ul style="list-style-type: none"> <li>• due to conductor-conductor surge acc. to IEC 61000-4-5</li> </ul>	1 kV
<ul style="list-style-type: none"> <li>• due to high-frequency radiation acc. to IEC 61000-4-6</li> </ul>	10 V
<b>Field-bound parasitic coupling acc. to IEC 61000-4-3</b>	10 V/m
<b>Electrostatic discharge acc. to IEC 61000-4-2</b>	6 kV contact discharge / 8 kV air discharge
<b>Conducted HF-interference emissions acc. to CISPR11</b>	corresponds to degree of severity A
<b>Field-bound HF-interference emission acc. to CISPR11</b>	corresponds to degree of severity A

## Inputs/ Outputs

<b>Product function</b>	
<ul style="list-style-type: none"> <li>• Parameterizable inputs</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Parameterizable outputs</li> </ul>	Yes
<b>Number of inputs</b>	4
<ul style="list-style-type: none"> <li>• for thermistor connection</li> </ul>	1
<b>Number of digital inputs</b>	
<ul style="list-style-type: none"> <li>• with a common reference potential</li> </ul>	4
<b>Digital input version</b>	
<ul style="list-style-type: none"> <li>• Type 1 acc. to IEC 61131</li> </ul>	Yes
Input voltage at digital input at DC rated value	24 V
<b>Number of outputs</b>	3
<b>Number of semiconductor outputs</b>	0
<b>Number of outputs as contact-affected switching element</b>	3
<b>Switching behavior</b>	monostable
<b>Type of relay outputs</b>	Monostable
<b>Wire length for digital signals maximum</b>	300 m
<b>Wire length for thermistor connection</b>	
<ul style="list-style-type: none"> <li>• with conductor cross-section = 0.5 mm<sup>2</sup> maximum</li> </ul>	50 m
<ul style="list-style-type: none"> <li>• with conductor cross-section = 1.5 mm<sup>2</sup> maximum</li> </ul>	150 m
<ul style="list-style-type: none"> <li>• with conductor cross-section = 2.5 mm<sup>2</sup> maximum</li> </ul>	250 m

## Protective and monitoring functions

<b>Product function</b>	
• Phase unbalance	Yes
• blocking current evaluation	Yes
• power factor monitoring	Yes
• Ground fault detection	Yes
• Phase failure detection	Yes
• phase sequence recognition	Yes
• voltage detection	Yes
• Monitoring of number of start operations	Yes
• Overvoltage detection	Yes
• Overcurrent detection 1 phase	Yes
• undervoltage detection	Yes
• undercurrent detection 1 phase	Yes
• active power monitoring	Yes
<b>Product function</b>	
• Current detection	Yes
• Overload protection	Yes
• Evaluation of thermistor motor protection	Yes
<b>Total cold resistance number of sensors in series maximum</b>	1.5 k $\Omega$
<b>Response value of thermoresistor</b>	3 400 ... 3 800 $\Omega$
• of the short-circuit control	9 $\Omega$
<b>Release value of thermoresistor</b>	1 500 ... 1 650 $\Omega$

## Motor control functions

<b>Product function</b>	
• parameterizable overload relay	Yes
• circuit breaker control	Yes
• direct start	Yes
• reverse starting	Yes
• star-delta circuit	Yes
• star-delta reversing circuit	Yes
• Dahlander circuit	Yes
• Dahlander reversing circuit	Yes
• pole-changing switch circuit	Yes
• pole-changing switch reversing circuit	Yes
• Slide control	Yes
• valve control	Yes

## Communication/ Protocol

• Protocol is supported PROFIBUS DP protocol	No
• Protocol is supported PROFINET IO protocol	Yes

<ul style="list-style-type: none"> <li>• Protocol is supported PROFI-safe protocol</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Protocol is supported Modbus RTU</li> </ul>	No
<ul style="list-style-type: none"> <li>• Protocol is supported EtherNet/IP</li> </ul>	No
<ul style="list-style-type: none"> <li>• Protocol is supported OPC UA Server</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Protocol is supported LLDP</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Protocol is supported Address Resolution Protocol (ARP)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Protocol is supported SNMP</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Protocol is supported HTTPS</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Protocol is supported NTP</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Protocol is supported Media Redundancy Protocol (MRP)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Product function is supported Device Level Ring (DLR)</li> </ul>	No
<b>Number of interfaces</b>	
<ul style="list-style-type: none"> <li>• acc. to PROFINET</li> </ul>	2
<ul style="list-style-type: none"> <li>• acc. to PROFIBUS</li> </ul>	0
<ul style="list-style-type: none"> <li>• according to Ethernet/IP</li> </ul>	0
<b>Product function</b>	
<ul style="list-style-type: none"> <li>• web server</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• shared device</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• at the Ethernet interface Autocrossover</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• at the Ethernet interface Autonegotiation</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• at the Ethernet interface Autosensing</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Media Redundancy Protocol for Planned Duplication (MRPD)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• is supported PROFINET system redundancy</li> </ul>	Yes; In conjunction with SIMATIC PCS 7 CPU 410-5H
<ul style="list-style-type: none"> <li>• supports PROFIenergy measured values</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• supports PROFIenergy shutdown</li> </ul>	Yes
<b>Transfer rate maximum</b>	100 Mbit/s
<b>PROFINET conformity class</b>	B
<b>Identification &amp; maintenance function</b>	
<ul style="list-style-type: none"> <li>• I&amp;M0 - device-specific information</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• I&amp;M1 – higher-level designation/location designation</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• I&amp;M2 - installation date</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• I&amp;M3 - comment</li> </ul>	Yes
<b>Type of electrical connection</b>	
<ul style="list-style-type: none"> <li>• of the communication interface</li> </ul>	2x RJ45
<b>Installation/ mounting/ dimensions</b>	
<b>Mounting position</b>	any
<b>Mounting type</b>	screw and snap-on mounting

<b>Height</b>	111 mm
<b>Width</b>	45 mm
<b>Depth</b>	124 mm
<b>Required spacing</b>	
• top	40 mm
• bottom	40 mm
• left	0 mm
• right	0 mm

### Connections/Terminals

<b>Product function</b>	
• removable terminal for auxiliary and control circuit	Yes
<b>Type of electrical connection</b>	
• for auxiliary and control current circuit	screw-type terminals
<b>Type of connectable conductor cross-sections</b>	
• solid	1x (0.5 ... 4.0 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> )
• finely stranded with core end processing	1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> )
• at AWG conductors solid	1x (20 ... 12), 2x (20 ... 14)
• at AWG conductors stranded	1x (20 ... 14), 2x (20 ... 16)
<b>Tightening torque</b>	
• with screw-type terminals	0.8 ... 1.2 N·m
<b>Tightening torque [lbf·in]</b>	
• with screw-type terminals	7 ... 10.3 lbf·in

### Ambient conditions

<b>Installation altitude at height above sea level</b>	
• 1 maximum	2 000 m
• 2 maximum	3 000 m; max. +50 °C (no protective separation)
• 3 maximum	4 000 m; No protective separation at 40 °C
<b>Environmental category</b>	
• during operation acc. to IEC 60721	3K6 (no formation of ice, no condensation, relative humidity 10 ... 95%), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6
• during storage acc. to IEC 60721	1K6 (no condensation, relative humidity 10 ... 95%), 1C2 (no salt mist), 1S2 (sand must not get into the devices), 1M4
• during transport acc. to IEC 60721	2K2, 2C1, 2S1, 2M2
<b>Relative humidity</b>	
• during operation	5 ... 95 %
<b>Contact rating of auxiliary contacts according to UL</b>	B300 / R300

### Short-circuit protection

<b>Design of short-circuit protection</b>	
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- per output

Fuse links: gG 6 A, quick-response 10 A (IEC 60947-5-1),  
miniature circuit-breaker C char.: 1.6 A (IEC 60947-5-1) or 6 A  
(I<sub>K</sub> < 500 A)

#### Safety related data

<b>Protection against electrical shock</b>	finger-safe
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#### Control circuit/ Control

<b>Product function soft starter control</b>	Yes
<b>Type of voltage of the control supply voltage</b>	AC/DC
<b>Control supply voltage at AC</b>	
• at 50 Hz rated value	110 ... 240 V
• at 60 Hz rated value	110 ... 240 V
<b>Control supply voltage frequency</b>	
• 1 rated value	50 Hz
• 2 rated value	60 Hz
<b>Relative symmetrical tolerance of the control supply voltage frequency</b>	5 %
<b>Control supply voltage at DC</b>	
• rated value	110 ... 240 V
<b>Operating range factor control supply voltage rated value at DC</b>	
• initial value	0.85
• Full-scale value	1.1
<b>Operating range factor control supply voltage rated value at AC at 50 Hz</b>	
• initial value	0.85
• Full-scale value	1.1
<b>Operating range factor control supply voltage rated value at AC at 60 Hz</b>	
• initial value	0.85
• Full-scale value	1.1

#### Certificates/approvals

General Product Approval	EMC	For use in hazardous locations
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For use in hazardous locations	Declaration of Conformity	Test Certificates			
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[Miscellaneous](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

[Declaration of the Compliance with the order](#)

Marine / Shipping	other
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[Confirmation](#)

[PROFIsafe-Certification](#)

other
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[PROFINET-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=3UF7011-1AU00-0>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mfb=3UF7011-1AU00-0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3UF7011-1AU00-0>

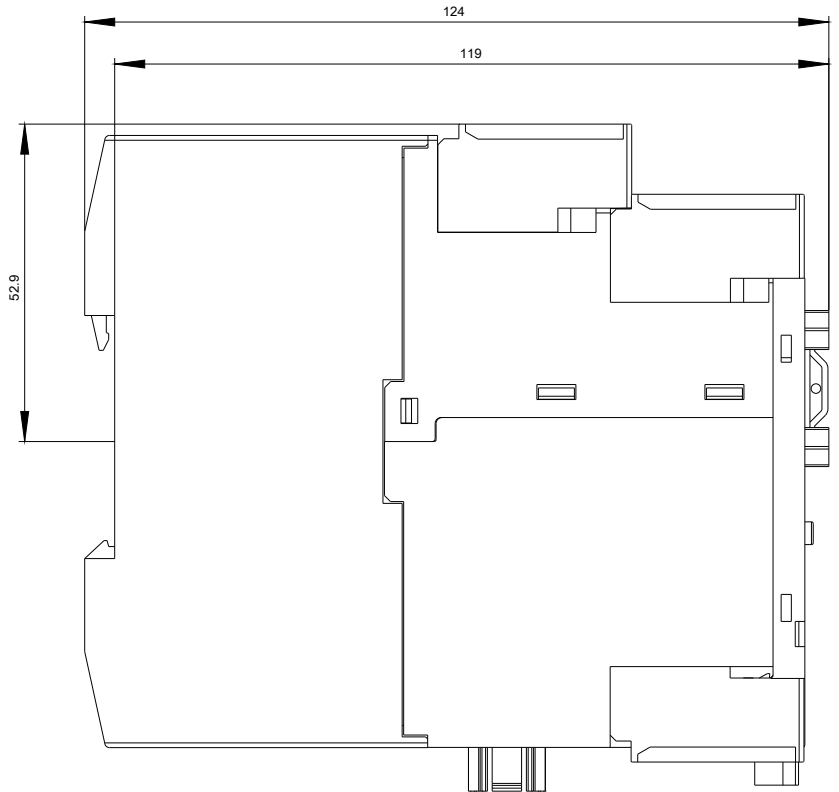
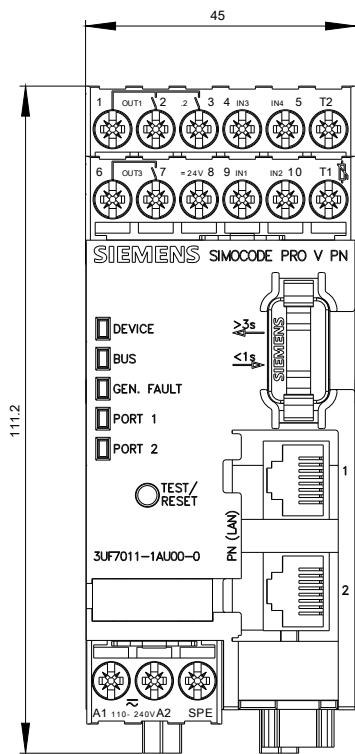
**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**

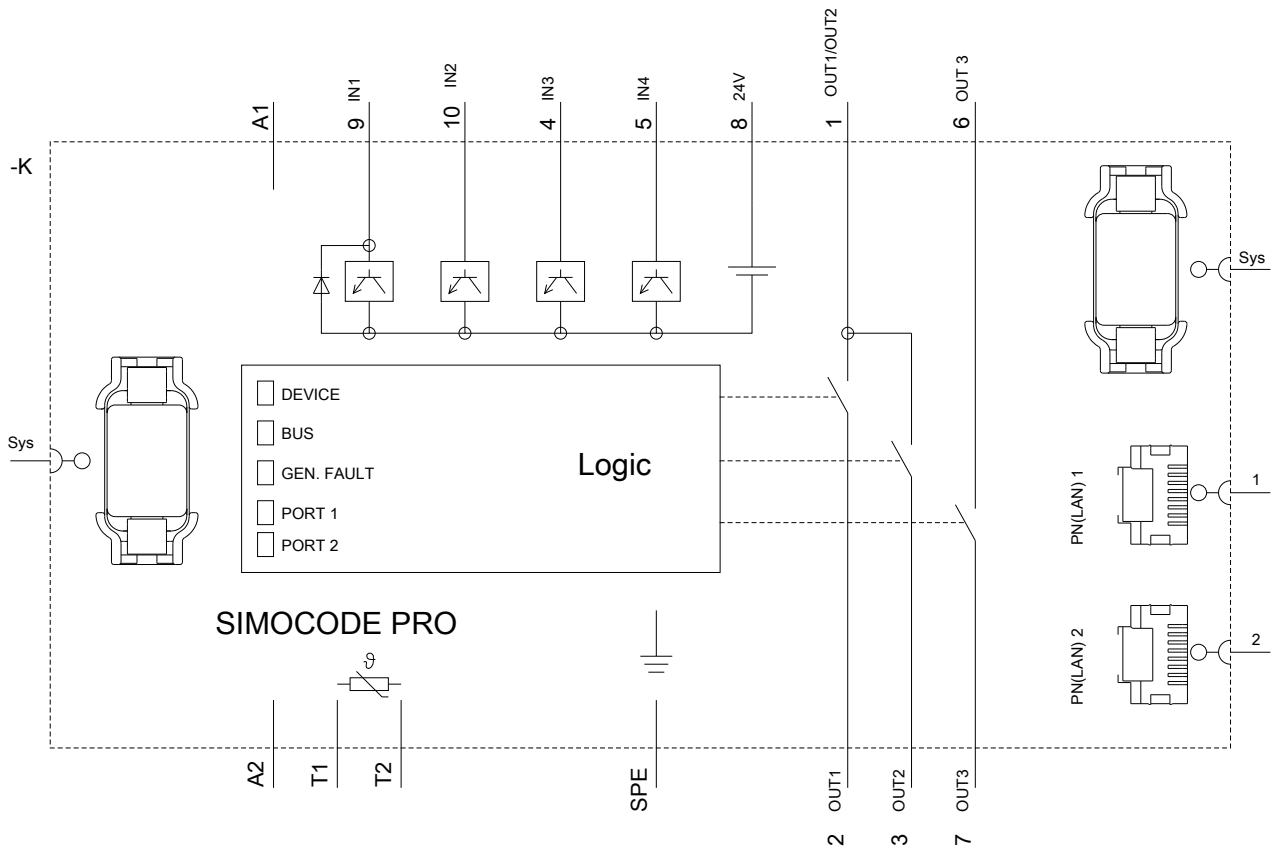
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mfb=3UF7011-1AU00-0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mfb=3UF7011-1AU00-0&lang=en)

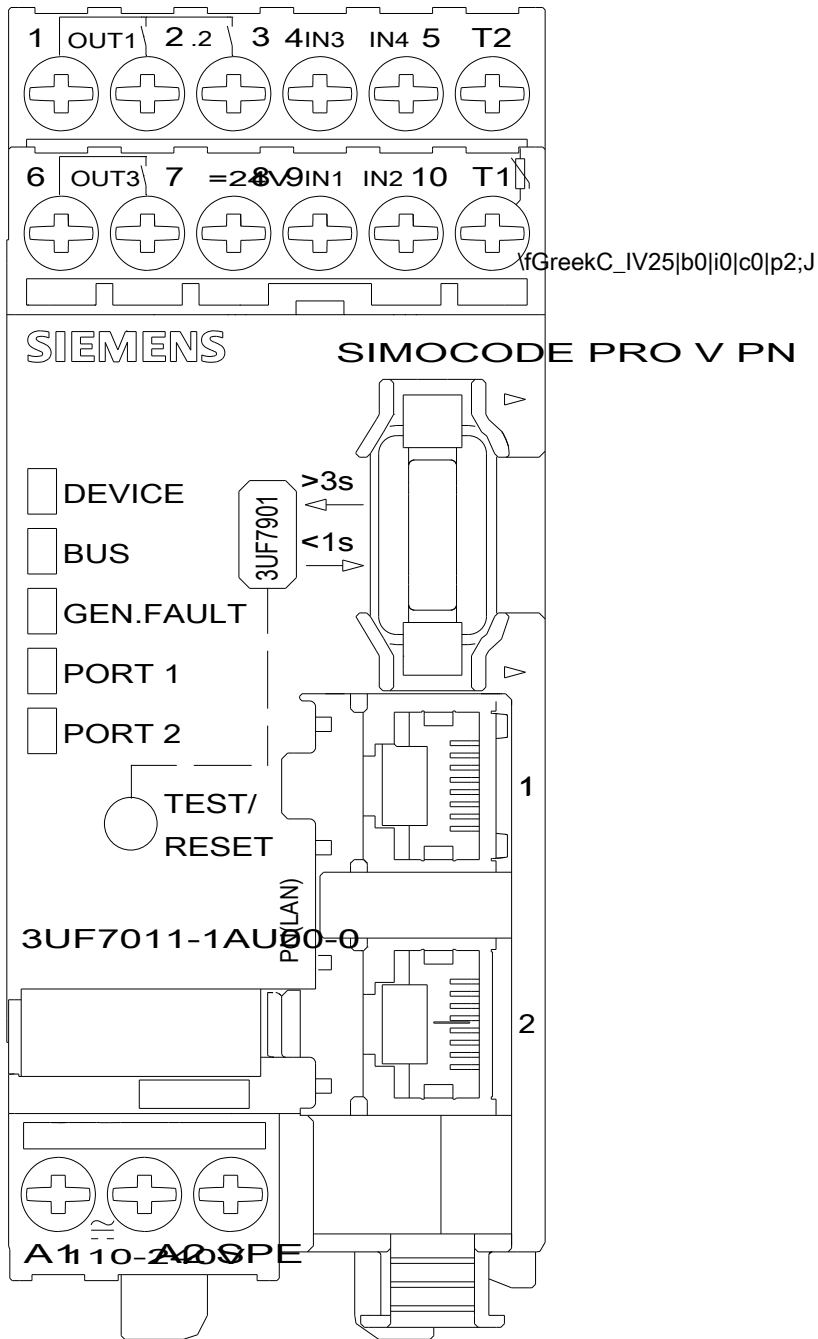
**Test report No. A0258, protective separation**

<https://support.industry.siemens.com/cs/ww/en/view/109748152>









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