SIEMENS

Data sheet 3UF7600-1AB01-0

Multifunctional module, 4 inputs and 2 relay outputs, input voltage 24 V DC, relay outputs monostable, analog residual current detection, with residual-current transformer 3UL23 Connection temperature sensor Pt100/Pt1000/KTY/NTC, max. 1 multifunctional module per basic unit SIMOCODE pro S

product brand name	SIRIUS
product designation	Multifunction module
manufacturer's article number	
● 1 of residual current transformer connectable	3UL2302-1A
● 2 of residual current transformer connectable	3UL2303-1A
● 3 of residual current transformer connectable	3UL2304-1A
● 4 of residual current transformer connectable	3UL2305-1A
● 5 of residual current transformer connectable	3UL2306-1A
● 6 of residual current transformer connectable	3UL2307-1A
General technical data	
type of current for monitoring	Type A (alternating currents and pulsing DC residual currents)
response time maximum	0 s
product function residual current display	Yes
adjustable current response value current	40 ... 0.03 A
product component	
● input for thermistor connection	No
● digital input	Yes
● input for residual current converter	Yes
● input for analog temperature sensors	Yes
● input for ground fault detection	Yes
● relay output	Yes
consumed active power	0.8 W
insulation voltage with degree of pollution 3 at AC rated value	300 V
surge voltage resistance rated value	4 000 V
protection class IP	IP20
shock resistance	
● when mounted on current measuring module according to IEC 60068-2-27	10 g / 11 ms
● **according to IEC 60068-2-27**	15g / 11 ms
switching capacity current of the NO contacts of the relay outputs at AC-15	
● at 24 V	6 A
● at 120 V	6 A
● at 230 V	3 A
switching capacity current of the NO contacts of the relay outputs at DC-13	
● at 24 V	2 A
● at 60 V	0.55 A
● at 125 V	0.25 A
mechanical service life (operating cycles) typical	10 000 000
electrical endurance (operating cycles) typical	100 000

buffering time in the event of power failure	0 s
reference code according to IEC 81346-2	K
continuous current of the NO contacts of the relay outputs	
● at 50 °C	6 A
● at 60 °C	5 A
Substance Prohibitance (Date)	05/01/2012
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8
measurable temperature	
● with NTC minimum	80 °C
● with NTC maximum	160 °C
● with KTY 84 minimum	-40 °C
● with KTY 84 maximum	300 °C
● with KTY 83-110 minimum	-50 °C
● with KTY 83-110 maximum	175 °C
● with Pt 1000 minimum	-50 °C
● with Pt 1000 maximum	500 °C
● with Pt 100 minimum	-50 °C
● with Pt 100 maximum	500 °C
relative temperature-related measurement deviation at 20 °C	2 %
sensor current for Pt 100 typical	1 mA
sensor current for Pt 1000/KTY 83-110/KTY 84/NTC typical	0.2 mA
diagnostics function at sensor input with residual current transformer	
● short-circuit detection	Yes
● open-circuit detection	Yes
diagnostics function at sensor input with Pt 100	
● short-circuit detection	Yes
● open-circuit detection	Yes
diagnostics function at sensor input with Pt 1000	
● short-circuit detection	Yes
● open-circuit detection	Yes
diagnostics function at sensor input with KTY 83-110	
● short-circuit detection	Yes
● open-circuit detection	Yes
diagnostics function at sensor input with KTY 84	
● short-circuit detection	Yes
● open-circuit detection	Yes
diagnostics function at sensor input with NTC	
● short-circuit detection	Yes
● open-circuit detection	No
type of connection technology of sensor circuit	2-wire or 3-wire connection
A/D conversion time at sensor circuit	500 ms
measurable line frequency initial value	16 Hz
measurable line frequency full-scale value	400 Hz
relative measurement deviation of residual current transformer	7.5 %
Electromagnetic compatibility	
EMC emitted interference according to IEC 60947-1	class A
EMC immunity according to IEC 60947-1	corresponds to degree of severity 3
conducted interference	
● due to burst according to IEC 61000-4-4	2 kV (power ports) / 1 kV (signal ports)
● due to conductor-earth surge according to IEC 61000-4-5	2 kV
● due to conductor-conductor surge according to IEC 61000-4-5	1 kV
● due to high-frequency radiation according to IEC 61000-4-6	10 V
field-based interference according to IEC 61000-4-3	10 V/m
electrostatic discharge according to IEC 61000-4-2	6 kV contact discharge / 8 kV air discharge
conducted HF interference emissions according to CISPR11	corresponds to degree of severity A
field-bound HF interference emission according to CISPR11	corresponds to degree of severity A

Inputs/ Outputs	
product function	
● parameterizable inputs	Yes
● parameterizable outputs	Yes
number of inputs	4
number of digital inputs	4
● with a common reference potential	4
digital input version	
● type 1 acc. to IEC 61131	No
● type 2 acc. to IEC 61131	Yes
number of analog inputs	0
number of sensor inputs	
● for ground fault detection	1
● for temperature measurement	1
input voltage at digital input at DC rated value	24 V
number of outputs	2
number of semiconductor outputs	0
number of outputs as contact-affected switching element	2
number of analog outputs	0
switching behavior	monostable
property of contacts of the relay outputs	Floating NO contacts (NC reaction parameterizable via internal signal conditioning), of which 2 relay outputs connected to common ground and one relay output separately, can be freely assigned to the control functions (e.g. line, star (wye), delta contactor or signaling of the operating state)
wire length for digital signals maximum	300 m
Protective and monitoring functions	
product function ground fault detection	Yes
design of the sensor for temperature measurement connectable	PT100 / PT1000 / KTY83-110 / KTY84 / NTC
Precision	
temperature drift per °C	0.05 %/°C
Installation/ mounting/ dimensions	
mounting position	any
height	100 mm
width	22.5 mm
depth	124.5 mm
required spacing	
● top	40 mm
● bottom	40 mm
● left	0 mm
● right	0 mm
diameter of inlet opening of connectable residual current transformer	35 ... 210 mm
Connections/ Terminals	
product component removable terminal for auxiliary and control circuit	Yes
type of connectable conductor cross-sections	
● solid	1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²)
● finely stranded with core end processing	1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.0 mm²)
● for AWG cables solid	1x (20 ... 14), 2x (20 ... 16)
● for AWG cables stranded	1x (20 ... 12), 2x (20 ... 14)
tightening torque with screw-type terminals	0.6 ... 0.8 N·m
tightening torque [lbf·in] with screw-type terminals	5.2 ... 7 lbf·in
Ambient conditions	
installation altitude at height above sea level	
● 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
ambient temperature	
● during operation	-25 ... +60 °C
● during storage	-40 ... +80 °C
● during transport	-40 ... +80 °C
environmental category	

• during operation according 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 according 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 according to IEC 60721	2K2, 2C1, 2S1, 2M2
relative humidity during operation	10 ... 95 %
contact rating of auxiliary contacts according to UL	B300 / R300
Short-circuit protection	
design of short-circuit protection 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_K < 500 A)
Electrical Safety	
touch protection against electrical shock	finger-safe
ATEX	
certificate of suitability according to ATEX directive 2014/34/EU	BVS 06 ATEX F001
explosion device group and category according to ATEX directive 2014/34/EU	II (2) G, II (2) D, I (M2)
Galvanic isolation	
(electrically) protective separation according to IEC 60947-1	All circuits with protective separation (double creepage paths and clearances), the information in the "Protective Separation" test report, No. A0258, must be observed (link see further information)
galvanic isolation between inputs and electronics	No
Control circuit/ Control	
type of voltage of the control supply voltage	DC
control supply voltage at DC rated value	
•	24 V
operating range factor control supply voltage rated value at DC	
• initial value	0.8
• full-scale value	1.2

Approvals Certificates

General Product Approval

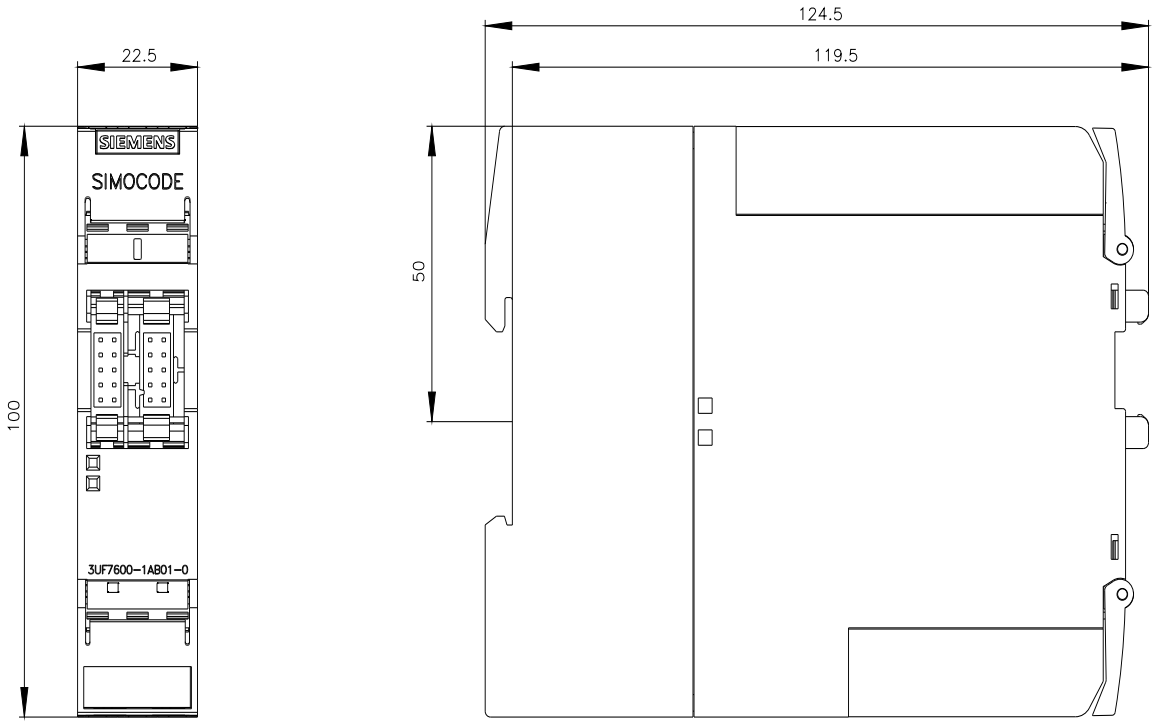
Confirmation

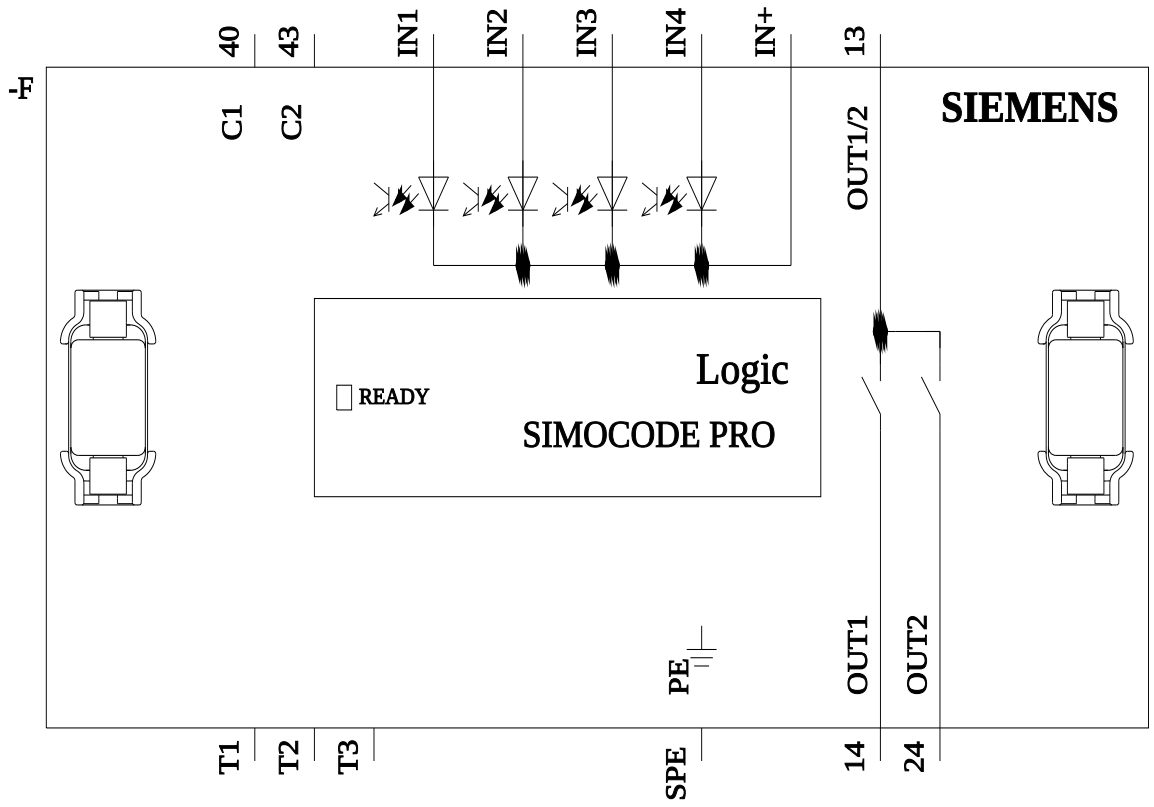
EMV	For use in hazardous locations		Test Certificates
 RCM	KC	 ATEX	 IECEx	Miscellaneous	Special Test Certificate

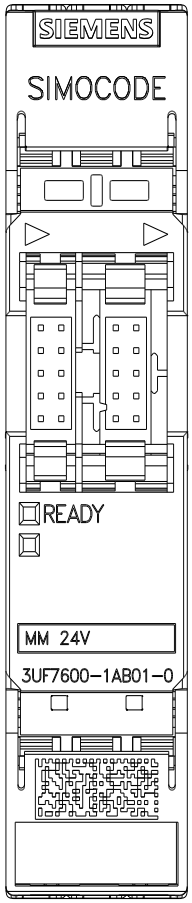
Test Certificates	Marine / Shipping		other	Environment	Industrial Communication
Type Test Certificates/Test Report	 DNV	 RMRS	Confirmation	Environmental Confirmations	 Profibus

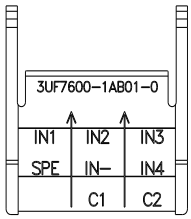
Further information

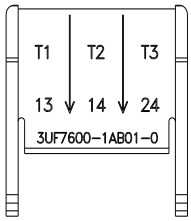
Information on the packaging
https://support.industry.siemens.com/cs/ww/en/view/109813875
Information- and Downloadcenter (Catalogs, Brochures,…)
https://www.siemens.com/ic10
Industry Mall (Online ordering system)
https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3UF7600-1AB01-0
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UF7600-1AB01-0
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3UF7600-1AB01-0
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UF7600-1AB01-0&lang=en











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