## **SIEMENS**

Data sheet 3UF7700-1AA00-0



Temperature module, 3 inputs for connection of up to 3 temperature sensors, for SIMOCODE pro  $\ensuremath{\mathsf{V}}$  basic unit

product component	product brand name	SIRIUS
product component  input for thermistor connection input for ground fault detection  consumed active power input for ground fault detection  No consumed active power  input for ground fault detection  No consumed active power  input for ground fault detection  No consumed active power  input for ground fault detection  P20  shock resistance according to IEC 60068-2-27  fig /11 ms  reference code according to IEC 81346-2  B  measurable temperature  initial value  initial value  full-scale value  Son °C  Substance Prohibitance (Date)  Solo1/2012  SVHC substance name  Bieli- 7439-92-1 Bielimonoxid (Bleioxid) - 1317-36-8  measurable temperature  with NTC mainmum  with NTC mainmum  with NTY 8 minimum  with NTY 84 minimum  with KTY 84-110 minimum  with KTY 83-110 minimum  with KTY 83-110 minimum  son °C  with P1 1000 mainmum  with P1 1000 mainmum  with P1 1000 mainmum  with P1 100 minimum  with P1 100 minimum  with P1 100 minimum  with P1 100 minimum  son °C  sensor current for P1 1000/KTY 83-110/KTY 84/NTC typical  diagnostics function at sensor input with P1 1000  short-circuit detection  yes  diagnostics function at sensor input with P1 1000  short-circuit detection  yes  diagnostics function at sensor input with P1 1000  short-circuit detection  yes  diagnostics function at sensor input with P1 1000  short-circuit detection  yes  diagnostics function at sensor input with P1 1000  short-circuit detection  yes  diagnostics function at sensor input with P1 1000  short-circuit detection  yes  diagnostics function at sensor input with P1 1000  short-circuit detection  yes  diagnostics function at sensor input with KTY 83-110	product designation	temperature module
input for analog temperature sensors input for ground fault detection consumed active power surge voltage resistance rated value protection class IP shock resistance according to IEC 60068-2-27 15g / 11 ms reference code according to IEC 81346-2 B measurable temperature initial value full-scale value Substance Prohibitance (Date)  SUBSTANCE Prohibitance (Date)  SUBSTANCE Prohibitance (Date)  SUHC substance name Biel- 7439-92-1 Bielimonoxid (Bieloxid) - 1317-36-8  measurable temperature with NTC minimum with NTC minimum with KTY 84 minimum 40 °C with KTY 84 minimum 40 °C with KTY 83-110 minimum with KTY 83-110 minimum 50 °C with RTY 83-110 minimum 50 °C with Pt 1000 minimum 50 °C with Pt 1000 minimum 50 °C sensor current for Pt 1000 kTY 83-110 KTY 84-NTC typical diagnostics function at sensor input with Pt 1000 short-circuit detection yes diagnostics function at sensor input with Pt 1000 e open-circuit detection yes diagnostics function at sensor input with Pt 1000 e open-circuit detection yes diagnostics function at sensor input with Pt 1000 e open-circuit detection yes diagnostics function at sensor input with Pt 1000 e open-circuit detection yes diagnostics function at sensor input with Pt 1000 e open-circuit detection yes diagnostics function at sensor input with Pt 1000 e open-circuit detection yes diagnostics function at sensor input with Pt 1000 e open-circuit detection yes diagnostics function at sensor input with Pt 1000 e open-circuit detection yes	General technical data	
• input for analog temperature sensors • input for ground fault detection No consumed active power surge voltage resistance rated value protection class IP protection class IP protection class IP shock resistance according to IEC 60068-2-27 15g /11 ms reference code according to IEC 81346-2 measurable temperature • initial value • full-scale value • full-scale value • full-scale value Substance Prohibitance (Date)  SVHC substance name  Biel- 7339-92-1 Bielimonoxid (Bleioxid) - 1317-36-8  measurable temperature • with NTC minimum • with NTC maximum • with NTC maximum 160 °C • with KTY 84 minimum 40 °C • with KTY 83-110 minimum • with KTY 83-110 minimum - 50 °C • with PT 1000 minimum - 50 °C • with PT 1000 minimum - 500 °C • with PT 1000 minimum - 500 °C  sensor current for Pt 100 typical sensor current for Pt 100 typical diagnostics function at sensor input with Pt 1000 • Short-circuit detection • open-circuit detection	product component	
input for ground fault detection  consumed active power  surge voltage resistance rated value  protection class IP  shock resistance according to IEC 60068-2-27  feference code according to IEC 81346-2  B  measurable temperature  initial value  full-scale value  Soo "C  substance Prohibitance (Date)  SVHC substance name  Biel- 7438-92-1  Bielmonoxid (Bleioxid) - 1317-36-8  measurable temperature  with NTC maximum  with NTC maximum  with KTY 84 minimum  with KTY 84 minimum  with KTY 83-110 minimum  with F1 1000	<ul> <li>input for thermistor connection</li> </ul>	No
Surge voltage resistance rated value	<ul> <li>input for analog temperature sensors</li> </ul>	Yes
surge voltage resistance rated value	input for ground fault detection	No
protection class IP IP20 shock resistance according to IEC 60068-2-27 15g / 11 ms reference code according to IEC 81346-2 B measurable temperature	consumed active power	0.2 W
shock resistance according to IEC 60068-2-27 reference code according to IEC 81346-2 B measurable temperature • initial value • full-scale value  Substance Prohibitance (Date)  SyHC substance name  Blei - 7439-92-1 Bleimonoxid (Bleioxid) - 1317-36-8  ### Note of the minimum • with NTC minimum • with NTC maximum • with NTC maximum • with KTY 84 minimum • with KTY 84 minimum • with KTY 83-110 minimum • with KTY 83-110 minimum • with KTY 83-110 minimum • with NTC maximum  • with NTC maximum  • with NTC maximum  • with NTC maximum • with NTC maximum • with NTC maximum • with NTC 83-110 minimum • -50 °C • with NTC 93-110 maximum • -50 °C • with Pt 1000 minimum • -50 °C • with Pt 1000 minimum • -50 °C • with Pt 100 maximum	surge voltage resistance rated value	4 000 V
reference code according to IEC 81346-2  measurable temperature  initial value  full-scale value  500 °C  Substance Prohibitance (Date)  SVHC substance name  Blei - 7439-92-1 Bleimonoxid (Bleioxid) - 1317-36-8  measurable temperature  with NTC minimum  80 °C  with NTC maximum  160 °C  with NTC 84 minimum  with KTY 84 minimum  with KTY 83-110 minimum  with KTY 83-110 maximum  with Pt 1000 minimum  with Pt 1000 maximum  with Pt 1000 maximum  with Pt 1000 maximum  son °C  with Pt 100 maximum  500 °C  relative temperature-related measurement deviation at 20 °C  sensor current for Pt 1000 typical  sensor	protection class IP	IP20
measurable temperature  initial value  full-scale value  Substance Prohibitance (Date)  SVHC substance name  Blei - 7439-92-1 Bleimonoxid (Bleioxid) - 1317-36-8  measurable temperature  with NTC minimum  with NTC maximum  info °C  with KTY 84 minimum  with KTY 84 maximum  with KTY 83-110 minimum  with KTY 83-110 maximum  with KTY 83-110 maximum  with KTY 83-110 maximum  suffice  with Pt 1000 minimum  with Pt 1000 minimum  with Pt 1000 minimum  with Pt 100 minimum  with Pt 100 minimum  with Pt 100 minimum  with Pt 100 maximum  soo °C  with Pt 100 maximum  soo °C  with Pt 100 minimum  soo °C  with Pt 100 minimum  soo °C  with Pt 100 maximum  soo °C  with Pt 100 minimum  soo °C  with Pt 100 maximum  soo °C  cansor current for Pt 100 typical  diagnostics function at sensor input with Pt 1000  short-circuit detection  yes  diagnostics function at sensor input with Pt 1000  short-circuit detection  yes  diagnostics function at sensor input with Pt 1000  short-circuit detection  yes  diagnostics function at sensor input with Pt 1000  short-circuit detection  yes  diagnostics function at sensor input with Pt 1000  short-circuit detection  yes  diagnostics function at sensor input with Pt 1000  short-circuit detection  yes  diagnostics function at sensor input with KTY 83-110	shock resistance according to IEC 60068-2-27	15g / 11 ms
initial value  full-scale value  50°C  substance Prohibitance (Date)  SVHC substance name  Blei -7439-92-1 Bleimonoxid (Bleioxid) - 1317-36-8  measurable temperature  with NTC minimum  with NTC maximum  with KTY 84 minimum  with KTY 84 maximum  with KTY 84-maximum  with KTY 83-110 minimum  with Pt 1000 min	reference code according to IEC 81346-2	В
• full-scale value 500 °C  Substance Prohibitance (Date) 05/01/2012  SYHC substance name Blei - 7439-92-1 Bleimonoxid (Bleioxid) - 1317-36-8  measurable temperature  • with NTC minimum 80 °C  • with NTC maximum 160 °C  • with KTY 84 minimum - 40 °C  • with KTY 84 minimum - 50 °C  • with KTY 83-110 minimum 175 °C  • with KTY 83-110 maximum - 50 °C  • with Pt 1000 minimum - 50 °C  • with Pt 1000 maximum 500 °C  • with Pt 100 maximum 500 °C  felative temperature-related measurement deviation at 20 °C  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 Pt 1000  • short-circuit detection Yes  • open-circuit detection Yes  • open-circuit detection Yes  diagnostics function at sensor input with KTY 83-110  diagnostics function at sensor input with KTY 83-110	measurable temperature	
Substance Prohibitance (Date)  SVHC substance name  Blei - 7439-92-1 Bleimonoxid (Bleioxid) - 1317-36-8  measurable temperature  • with NTC minimum  • with NTC maximum  • with NTY aximum  • with KTY 84 minimum  • with KTY 84 maximum  • with KTY 83-110 minimum  • with KTY 83-110 minimum  • 50 °C  • with Pt 1000 minimum  • 50 °C  • with Pt 1000 maximum  • with Pt 1000 minimum  • with Pt 100 minimum  • with Pt 10	• initial value	-50 °C
Blei - 7439-92-1 Bleimonoxid (Bleioxid) - 1317-36-8  measurable temperature  • with NTC minimum  • with NTC maximum  • with KTY 84 minimum  • with KTY 84 maximum  • with KTY 83-110 minimum  • with KTY 83-110 minimum  • with KTY 83-110 minimum  • 50 °C  • with Pt 1000 minimum  • 500 °C  • with Pt 1000 maximum  • 500 °C  • with Pt 100 maximum  • 500 °C  • with Pt 100 maximum  • 500 °C  sensor current for Pt 100 typical  diagnostics function at sensor input with Pt 1000  • short-circuit detection  • open-circuit detection  • open-circuit detection  diagnostics function at sensor input with Pt 1000  • short-circuit detection  • open-circuit detection	full-scale value	500 °C
measurable temperature  • with NTC minimum  • with NTC maximum  • with NTY Barminmum  • with KTY 84 minimum  • with KTY 84 minimum  • with KTY 84 minimum  • with KTY 83-110 minimum  • so °C  • with KTY 83-110 minimum  • so °C  • with RTY 83-110 maximum  • so °C  • with Pt 1000 minimum  • 50 °C  • with Pt 1000 minimum  • 500 °C  • with Pt 100 minimum  • 500 °C  • with Pt 100 maximum  • so °C  • with Pt 100 maximum  • so °C  sensor current for Pt 100 typical  sensor current for Pt 100 typical  diagnostics function at sensor input with Pt 100  • short-circuit detection  • short-circuit detection  • open-circuit detection	Substance Prohibitance (Date)	05/01/2012
with NTC minimum with NTC maximum with KTY 84 minimum with KTY 84 minimum with KTY 84 maximum with KTY 84 maximum with KTY 83-110 minimum with KTY 83-110 minimum with KTY 83-110 maximum with Pt 1000 minimum with Pt 1000 maximum with Pt 1000 maximum with Pt 1000 minimum with Pt 100 maximum with Pt 100 max	SVHC substance name	
with NTC maximum     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 1000 maximum     500 °C     with Pt 100 typical     sensor current for Pt 100 typical     sensor current for Pt 100typical	measurable temperature	
with KTY 84 minimum     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 maximum     500 °C     relative temperature-related measurement deviation at 20 °C     sensor current for Pt 100 typical     sensor current for Pt 100 typical     sensor current for Pt 1000/KTY 83-110/KTY 84/NTC typical     diagnostics function at sensor input with Pt 100         • short-circuit detection         • open-circuit detection         • short-circuit detection         • short-circuit detection         • short-circuit detection         • open-circuit detection         • short-circuit detection	• with NTC minimum	80 °C
with KTY 84 maximum     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 maximum     500 °C  relative temperature-related measurement deviation at 20 °C  sensor current for Pt 100 typical     1 mA  sensor current for Pt 1000/KTY 83-110/KTY 84/NTC typical diagnostics function at sensor input with Pt 100     • short-circuit detection     • open-circuit detection     • short-circuit detection     • yes  diagnostics function at sensor input with KTY 83-110	with NTC maximum	160 °C
with KTY 83-110 minimum     with KTY 83-110 maximum     175 °C     with Pt 1000 minimum     -50 °C     with Pt 1000 maximum     500 °C     with Pt 100 maximum     500 °C     relative temperature-related measurement deviation at 20 °C     sensor current for Pt 100 typical     sensor current for Pt 1000/KTY 83-110/KTY 84/NTC typical     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          diagnostics function at sensor input with Pt 1000          short-circuit detection          yes          diagnostics function at sensor input with Pt 1000          short-circuit detection          yes          diagnostics function at sensor input with KTY 83-110	• with KTY 84 minimum	-40 °C
with KTY 83-110 maximum     with Pt 1000 minimum     son °C     with Pt 1000 maximum     son °C     with Pt 100 minimum     son °C     with Pt 100 maximum     son °C     with Pt 100 maximum     son °C  relative temperature-related measurement deviation at 20     °C  sensor current for Pt 100 typical     sensor current for Pt 1000/KTY 83-110/KTY 84/NTC typical  diagnostics function at sensor input with Pt 100     short-circuit detection     yes     open-circuit detection     short-circuit detection     yes     open-circuit detection     yes     open-circuit detection     yes     open-circuit detection     yes  diagnostics function at sensor input with KTY 83-110	<ul><li>with KTY 84 maximum</li></ul>	300 °C
with Pt 1000 minimum with Pt 1000 maximum  with Pt 1000 maximum  with Pt 100 minimum  -50 °C  with Pt 100 maximum  500 °C  with Pt 100 maximum  500 °C  relative temperature-related measurement deviation at 20 °C  sensor current for Pt 100 typical  sensor current for Pt 1000/KTY 83-110/KTY 84/NTC typical  diagnostics function at sensor input with Pt 100  short-circuit detection  open-circuit detection  short-circuit detection  open-circuit detection  yes  open-circuit detection  Yes  open-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	• with KTY 83-110 minimum	-50 °C
with Pt 1000 maximum     with Pt 100 minimum     with Pt 100 maximum     son °C      with Pt 100 maximum     son °C  relative temperature-related measurement deviation at 20     °C  sensor current for Pt 100 typical     sensor current for Pt 1000/KTY 83-110/KTY 84/NTC typical  diagnostics function at sensor input with Pt 100     short-circuit detection     ves     open-circuit detection     short-circuit detection     short-circuit detection     short-circuit detection     ves     open-circuit detection     ves  diagnostics function at sensor input with KTY 83-110	• with KTY 83-110 maximum	175 °C
with Pt 100 minimum	• with Pt 1000 minimum	-50 °C
with Pt 100 maximum     500 °C  relative temperature-related measurement deviation at 20 °C  sensor current for Pt 100 typical sensor current for Pt 1000/KTY 83-110/KTY 84/NTC typical diagnostics function at sensor input with Pt 100     • short-circuit detection     • open-circuit detection     • short-circuit detection     • short-circuit detection     • open-circuit detection  diagnostics function at sensor input with KTY 83-110	• with Pt 1000 maximum	500 °C
relative temperature-related measurement deviation at 20 °C sensor current for Pt 100 typical sensor current for Pt 1000/KTY 83-110/KTY 84/NTC typical diagnostics function at sensor input with Pt 100 • short-circuit detection • open-circuit detection ves diagnostics function at sensor input with Pt 1000 • short-circuit detection • short-circuit detection • open-circuit detection	• with Pt 100 minimum	-50 °C
sensor current for Pt 100 typical  sensor current for Pt 1000/KTY 83-110/KTY 84/NTC typical  diagnostics function at sensor input with Pt 100  • short-circuit detection  • open-circuit detection  short-circuit detection  • open-circuit detection	with Pt 100 maximum	500 °C
sensor current for Pt 1000/KTY 83-110/KTY 84/NTC typical  diagnostics function at sensor input with Pt 100  • short-circuit detection  • open-circuit detection  • short-circuit detection  • short-circuit detection  • short-circuit detection  • open-circuit detection		2 %
diagnostics function at sensor input with Pt 100  • short-circuit detection  • open-circuit detection  diagnostics function at sensor input with Pt 1000  • short-circuit detection  • open-circuit detection  • open-circuit detection  • open-circuit detection  • open-circuit detection  Yes  diagnostics function at sensor input with KTY 83-110	sensor current for Pt 100 typical	1 mA
short-circuit detection     open-circuit detection     diagnostics function at sensor input with Pt 1000     short-circuit detection     short-circuit detection     open-circuit detection     yes  diagnostics function at sensor input with KTY 83-110	sensor current for Pt 1000/KTY 83-110/KTY 84/NTC typical	0.2 mA
open-circuit detection  diagnostics function at sensor input with Pt 1000      short-circuit detection     open-circuit detection     open-circuit detection  diagnostics function at sensor input with KTY 83-110  Yes	diagnostics function at sensor input with Pt 100	
diagnostics function at sensor input with Pt 1000  • short-circuit detection  • open-circuit detection  Yes  diagnostics function at sensor input with KTY 83-110	<ul> <li>short-circuit detection</li> </ul>	Yes
<ul> <li>short-circuit detection</li> <li>open-circuit detection</li> <li>diagnostics function at sensor input with KTY 83-110</li> </ul>	open-circuit detection	Yes
open-circuit detection     Yes  diagnostics function at sensor input with KTY 83-110	diagnostics function at sensor input with Pt 1000	
diagnostics function at sensor input with KTY 83-110	<ul> <li>short-circuit detection</li> </ul>	Yes
	open-circuit detection	Yes
• short-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	
<ul> <li>short-circuit detection</li> </ul>	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
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	
<ul> <li>due to burst according to IEC 61000-4-4</li> </ul>	1 kV
<ul> <li>due to conductor-earth surge according to IEC 61000-4-5</li> </ul>	2 kV
due to conductor-conductor surge according to IEC     61000 4 5	1 kV
61000-4-5	10 V/m
field-based interference according to IEC 61000-4-3 Inputs/ Outputs	IU V/III
	2
number of digital inputs	3
number of digital inputs	2
number of analog inputs	3
number of outputs as contact-affected switching element	0
number of analog outputs	0
Protective and monitoring functions	PT (AN I PT (ANN I VIT) (AN I VIT) (AN I VIT)
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
fastening method	screw and snap-on mounting
height	92 mm
width	22.5 mm
depth	124 mm
required spacing	
• top	40 mm
• bottom	40 mm
• left	0 mm
• right	0 mm
Connections/ Terminals	
type of connectable conductor cross-sections	1v (0.5
Solid     Finally stranded with care and processing	1x (0.5 4.0 mm²), 2x (0.5 2.5 mm²)
finely stranded with core end processing     for AWC cables solid.	1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²)
for AWG cables stranded	1x (20 14), 2x (20 16)
for AWG cables stranded  tightening torque with serew type terminals.	1x (20 12), 2x (20 14)
tightening torque with screw-type terminals	0.8 1.2 N·m
tightening torque [lbf-in] with screw-type terminals  Ambient conditions	7 10.3 lbf·in
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; max. +40 °C (no protective separation)
ambient temperature	+ 000 m, max. 140 0 (no protective separation)
•	-25 +60 °C
during operation     during storage	-25 +60 C
during storage     during transport	-40 +80 °C
during transport     environmental category	
environmental category  ● during operation according to IEC 60721	3K6 (no formation of ice, no condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6
<ul> <li>during storage according to IEC 60721</li> </ul>	3K6 (no formation of ice, no condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6

• during transport according to IEC 60721	3K6 (no formation of ice, no condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6
relative humidity during operation	5 95 %
Electrical Safety	
touch protection against electrical shock	finger-safe
Galvanic isolation	
galvanic isolation between inputs and electronics	No
Approvals Certificates	
General Product Approval	





Confirmation







**EMC** 

**Test Certificates** 

Marine / Shipping

other



Type Test Certificates/Test Report







Confirmation

## Further information

Siemens has decided to exit the Russian market (see here).

https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

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=3UF7700-1AA00-0

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UF7700-1AA00-0

 $Service \& Support \ (Manuals, \ Certificates, \ Characteristics, \ FAQs, ...)$ 

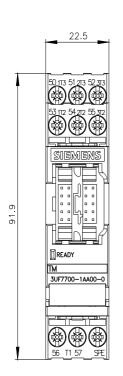
https://support.industry.siemens.com/cs/ww/en/ps/3UF7700-1AA00-0

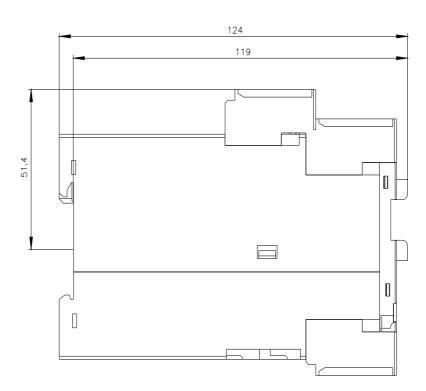
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

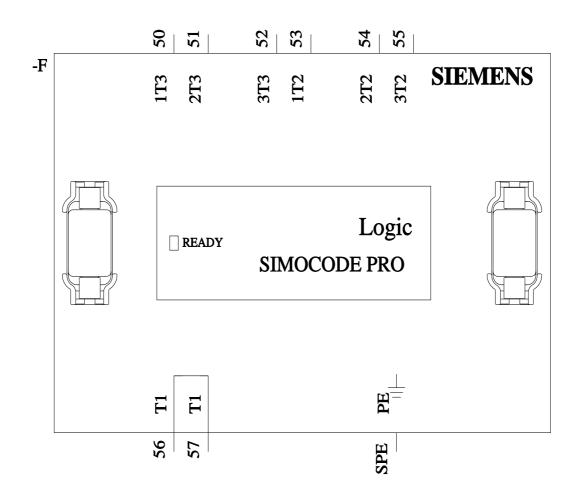
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3UF7700-1AA00-0&lang=en

Test report No. A0258, protective separation

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







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