

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Electronical and Electromechanical Relays

with type designation(s)

TERMSERIES

TRS, Relay, Screw

TRZ, Relay, Tension

TOS, Optocoupler, Screw

TOZ, Optocoupler, Tension

Issued to

Weidmüller Interface GmbH & Co. KG
Detmold, Germany

is found to comply with

DNV GL rules for classification – Ships, offshore units, and high speed and light craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Type	Temperature	Humidity	Vibration	EMC	Enclosure
TERMSERIES					
TRS, Relay, Screw	B*	B	B**	B*	A
TRZ, Relay, Tension	B*	B	B**	B*	A
TOS, Optocoupler, Screw	B*	B	B	B*	A
TOZ, Optocoupler, Tension	B*	B	B	B*	A

*** = A for 24 - 230 VUC (AC/DC)**

**** = NC Contacts only A**

Issued at **Hamburg** on **2017-09-27**

This Certificate is valid until **2022-09-26**.

DNV GL local station: **Essen**

for **DNV GL**

Approval Engineer: **Marco Rinkel**

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Joannis Papanuskas
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Product description

Relay, Optocoupler with fixed-voltage inputs or with the multi-voltage input in 6mm / 12mm terminal block format.

Typen und Varianten	Input Voltage	Output Voltage	Output Current per Channel
TRS 5VDC 1CO	5Vdc	250Vac	6A resistive
TRZ 5VDC 1CO	5Vdc	250Vac	6A resistive
TRS 5VDC 1CO Au	5Vdc	250Vac	6A resistive
TRZ 5VDC 1CO Au	5Vdc	250Vac	6A resistive
TRS 5VDC 2CO	5Vdc	250Vac	8A resistive
TRZ 5VDC 2CO	5Vdc	250Vac	8A resistive
TRS 5VDC 2CO Au	5Vdc	250Vac	8A resistive
TRZ 5VDC 2CO Au	5Vdc	250Vac	8A resistive
TOS 5VDC 24VDC2A	5Vdc	24Vdc	2A resistive
TOZ 5VDC 24VDC2A	5Vdc	24Vdc	2A resistive
TOS 5VDC 48VDC0,1A	5Vdc	48Vdc	0.1A resistive
TOZ 5VDC 48VDC0,1A	5Vdc	48Vdc	0.1A resistive
TOS 5VDC 230VAC1A	5Vdc	230Vac	1A resistive
TOZ 5VDC 230VAC1A	5Vdc	230Vac	1A resistive
TRS 12VDC 1CO	12Vdc	250Vac	6A resistive
TRZ 12VDC 1CO	12Vdc	250Vac	6A resistive
TRS 12VDC 1CO Au	12Vdc	250Vac	6A resistive
TRZ 12VDC 1CO Au	12Vdc	250Vac	6A resistive
TRS 12VDC 2CO	12Vdc	250Vac	8A resistive
TRZ 12VDC 2CO	12Vdc	250Vac	8A resistive
TRS 12VDC 2CO Au	12Vdc	250Vac	8A resistive
TRZ 12VDC 2CO Au	12Vdc	250Vac	8A resistive
TOS 12VDC 24VDC2A	12Vdc	24Vdc	2A resistive
TOZ 12VDC 24VDC2A	12Vdc	24Vdc	2A resistive
TOS 12VDC 48VDC0,1A	12Vdc	48Vdc	0.1A resistive
TOZ 12VDC 48VDC0,1A	12Vdc	48Vdc	0.1A resistive
TOS 12VDC 230VAC1A	12Vdc	230Vac	1A resistive
TOZ 12VDC 230VAC1A	12Vdc	230Vac	1A resistive
TRS 24VDC 1CO	24Vdc	250Vac	6A resistive
TRZ 24VDC 1CO	24Vdc	250Vac	6A resistive
TRS 24VDC 1CO Au	24Vdc	250Vac	6A resistive
TRZ 24VDC 1CO Au	24Vdc	250Vac	6A resistive
TRS 24VDC 2CO	24Vdc	250Vac	8A resistive
TRZ 24VDC 2CO	24Vdc	250Vac	8A resistive

Typen und Varianten	Input Voltage	Output Voltage	Output Current per Channel
TRS 24VDC 2CO Au	24Vdc	250Vac	8A resistive
TRZ 24VDC 2CO Au	24Vdc	250Vac	8A resistive
TOS 24VDC 24VDC2A	24Vdc	24Vdc	2A resistive
TOZ 24VDC 24VDC2A	24Vdc	24Vdc	2A resistive
TOS 24VDC 48VDC0,1A	24Vdc	48Vdc	0.1A resistive
TOZ 24VDC 48VDC0,1A	24Vdc	48Vdc	0.1A resistive
TOS 24VDC 230VAC1A	24Vdc	230Vac	1A resistive
TOZ 24VDC 230VAC1A	24Vdc	230Vac	1A resistive
TOS 24VDC 24VDC3.5A	24Vdc	24Vdc	3.5A resistive
TOZ 24VDC 24VDC3.5A	24Vdc	24Vdc	3.5A resistive
TRS 24VUC 1CO	24V dc/ac	250Vac	6A resistive
TRZ 24VUC 1CO	24V dc/ac	250Vac	6A resistive
TRS 24VUC 1CO Au	24V dc/ac	250Vac	6A resistive
TRZ 24VUC 1CO Au	24V dc/ac	250Vac	6A resistive
TRS 24VUC 2CO	24V dc/ac	250Vac	8A resistive
TRZ 24VUC 2CO	24V dc/ac	250Vac	8A resistive
TRS 24VUC 2CO Au	24V dc/ac	250Vac	8A resistive
TRZ 24VUC 2CO Au	24V dc/ac	250Vac	8A resistive
TOS 24VUC 24VDC2A	24V dc/ac	24Vdc	2A resistive
TOZ 24VUC 24VDC2A	24V dc/ac	24Vdc	2A resistive
TOS 24VUC 48VDC0,1A	24V dc/ac	48Vdc	0.1A resistive
TOZ 24VUC 48VDC0,1A	24V dc/ac	48Vdc	0.1A resistive
TOS 24VUC 230VAC1A	24V dc/ac	230Vac	1A resistive
TOZ 24VUC 230VAC1A	24V dc/ac	230Vac	1A resistive
TRS 48VUC 1CO	48V dc/ac	250Vac	6A resistive
TRZ 48VUC 1CO	48V dc/ac	250Vac	6A resistive
TRS 48VUC 1CO Au	48V dc/ac	250Vac	6A resistive
TRZ 48VUC 1CO Au	48V dc/ac	250Vac	6A resistive
TRS 48VUC 2CO	48V dc/ac	250Vac	8A resistive
TRZ 48VUC 2CO	48V dc/ac	250Vac	8A resistive
TRS 48VUC 2CO Au	48V dc/ac	250Vac	8A resistive
TRZ 48VUC 2CO Au	48V dc/ac	250Vac	8A resistive
TOS 48VUC 24VDC2A	48V dc/ac	24Vdc	2A resistive
TOZ 48VUC 24VDC2A	48V dc/ac	24Vdc	2A resistive
TOS 48VUC 48VDC0,1A	48V dc/ac	48Vdc	0.1A resistive
TOZ 48VUC 48VDC0,1A	48V dc/ac	48Vdc	0.1A resistive
TOS 48VUC 230VAC1A	48V dc/ac	230Vac	1A resistive
TOZ 48VUC 230VAC1A	48V dc/ac	230Vac	1A resistive

Typen und Varianten	Input Voltage	Output Voltage	Output Current per Channel
TRS 60VUC 1CO	60V dc/ac	250Vac	6A resistive
TRZ 60VUC 1CO	60V dc/ac	250Vac	6A resistive
TRS 60VUC 1CO Au	60V dc/ac	250Vac	6A resistive
TRZ 60VUC 1CO Au	60V dc/ac	250Vac	6A resistive
TRS 60VUC 2CO	60V dc/ac	250Vac	8A resistive
TRZ 60VUC 2CO	60V dc/ac	250Vac	8A resistive
TRS 60VUC 2CO Au	60V dc/ac	250Vac	8A resistive
TRZ 60VUC 2CO Au	60V dc/ac	250Vac	8A resistive
TOS 60VUC 24VDC2A	60V dc/ac	24Vdc	2A resistive
TOZ 60VUC 24VDC2A	60V dc/ac	24Vdc	2A resistive
TOS 60VUC 48VDC0,1A	60V dc/ac	48Vdc	0.1A resistive
TOZ 60VUC 48VDC0,1A	60V dc/ac	48Vdc	0.1A resistive
TOS 60VUC 230VAC1A	60V dc/ac	230Vac	1A resistive
TOZ 60VUC 230VAC1A	60V dc/ac	230Vac	1A resistive
TRS 120VUC 1CO	120V dc/ac	250Vac	6A resistive
TRZ 120VUC 1CO	120V dc/ac	250Vac	6A resistive
TRS 120VUC 1CO Au	120V dc/ac	250Vac	6A resistive
TRZ 120VUC 1CO Au	120V dc/ac	250Vac	6A resistive
TRS 120VUC 2CO	120V dc/ac	250Vac	8A resistive
TRZ 120VUC 2CO	120V dc/ac	250Vac	8A resistive
TRS 120VUC 2CO Au	120V dc/ac	250Vac	8A resistive
TRZ 120VUC 2CO Au	120V dc/ac	250Vac	8A resistive
TRS 120VAC RC 1CO	120V ac	250Vac	6A resistive
TRZ 120VAC RC 1CO	120V ac	250Vac	6A resistive
TRS 120VAC RC 1CO Au	120V ac	250Vac	6A resistive
TRZ 120VAC RC 1CO Au	120V ac	250Vac	6A resistive
TRS 120VAC RC 2CO	120V ac	250Vac	8A resistive
TRZ 120VAC RC 2CO	120V ac	250Vac	8A resistive
TRS 120VAC RC 2CO Au	120V ac	250Vac	8A resistive
TRZ 120VAC RC 2CO Au	120V ac	250Vac	8A resistive
TOS 120VUC 24VDC2A	120V dc/ac	24Vdc	2A resistive
TOZ 120VUC 24VDC2A	120V dc/ac	24Vdc	2A resistive
TOS 120VAC RC 24VDC2A	120V ac	24Vdc	2A resistive
TOZ 120VAC RC 24VDC2A	120V ac	24Vdc	2A resistive
TOS 120VUC 48VDC0,1A	120V dc/ac	48Vdc	0.1A resistive
TOZ 120VUC 48VDC0,1A	120V dc/ac	48Vdc	0.1A resistive
TOS 120VAC RC 48VDC0,1A	120V ac	48Vdc	0.1A resistive
TOZ 120VAC RC 48VDC0,1A	120V ac	48Vdc	0.1A resistive

Typen und Varianten	Input Voltage	Output Voltage	Output Current per Channel
TOS 120VUC 230VAC1A	120V dc/ac	230Vac	1A resistive
TOZ 120VUC 230VAC1A	120V dc/ac	230Vac	1A resistive
TOS 120VAC RC 230VAC1A	120V ac	230Vac	1A resistive
TOZ 120VAC RC 230VAC1A	120V ac	230Vac	1A resistive
TRS 230VUC 1CO	230V dc/ac	250Vac	6A resistive
TRZ 230VUC 1CO	230V dc/ac	250Vac	6A resistive
TRS 230VUC 1CO Au	230V dc/ac	250Vac	6A resistive
TRZ 230VUC 1CO Au	230V dc/ac	250Vac	6A resistive
TRS 230VUC 2CO	230V dc/ac	250Vac	8A resistive
TRZ 230VUC 2CO	230V dc/ac	250Vac	8A resistive
TRS 230VUC 2CO Au	230V dc/ac	250Vac	8A resistive
TRZ 230VUC 2CO Au	230V dc/ac	250Vac	8A resistive
TRS 230VAC RC 1CO	230V ac	250Vac	6A resistive
TRZ 230VAC RC 1CO	230V ac	250Vac	6A resistive
TRS 230VAC RC 1CO Au	230V ac	250Vac	6A resistive
TRZ 230VAC RC 1CO Au	230V ac	250Vac	6A resistive
TRS 230VAC RC 2CO	230V ac	250Vac	8A resistive
TRZ 230VAC RC 2CO	230V ac	250Vac	8A resistive
TRS 230VAC RC 2CO Au	230V ac	250Vac	8A resistive
TRZ 230VAC RC 2CO Au	230V ac	250Vac	8A resistive
TOS 230VUC 24VDC2A	230V dc/ac	24Vdc	2A resistive
TOZ 230VUC 24VDC2A	230V dc/ac	24Vdc	2A resistive
TOS 230VAC RC 24VDC2A	230V ac	24Vdc	2A resistive
TOZ 230VAC RC 24VDC2A	230V ac	24Vdc	2A resistive
TOS 230VUC 48VDC0,1A	230V dc/ac	48Vdc	0.1A resistive
TOZ 230VUC 48VDC0,1A	230V dc/ac	48Vdc	0.1A resistive
TOS 230VAC RC 48VDC0,1A	230V ac	48Vdc	0.1A resistive
TOZ 230VAC RC 48VDC0,1A	230V ac	48Vdc	0.1A resistive
TOS 230VUC 230VAC1A	230V dc/ac	230Vac	1A resistive
TOZ 230VUC 230VAC1A	230V dc/ac	230Vac	1A resistive
TOS 230VAC RC 230VAC1A	230V ac	230Vac	1A resistive
TOZ 230VAC RC 230VAC1A	230V ac	230Vac	1A resistive
TRS 24-230VUC 1CO	24V - 230V dc/ac	250Vac	6A resistive
TRZ 24-230VUC 1CO	24V - 230V dc/ac	250Vac	6A resistive
TRS 24-230VUC 1CO Au	24V - 230V dc/ac	250Vac	6A resistive
TRZ 24-230VUC 1CO Au	24V - 230V dc/ac	250Vac	6A resistive
TRS 24-230VUC 2CO	24V - 230V dc/ac	250Vac	8A resistive
TRZ 24-230VUC 2CO	24V - 230V dc/ac	250Vac	8A resistive

Typen und Varianten	Input Voltage	Output Voltage	Output Current per Channel
TRS 24-230VUC 2CO Au	24V - 230V dc/ac	250Vac	8A resistive
TRZ 24-230VUC 2CO Au	24V - 230V dc/ac	250Vac	8A resistive
TOS 24-230VUC 24VDC2A	24V - 230V dc/ac	24Vdc	2A resistive
TOZ 24-230VUC 24VDC2A	24V - 230V dc/ac	24Vdc	2A resistive
TOS 24-230VUC 48VDC0,1A	24V - 230V dc/ac	48Vdc	0.1A resistive
TOZ 24-230VUC 48VDC0,1A	24V - 230V dc/ac	48Vdc	0.1A resistive
TOS 24-230VUC 230VAC1A	24V - 230V dc/ac	230Vac	1A resistive
TOZ 24-230VUC 230VAC1A	24V - 230V dc/ac	230Vac	1A resistive
TOS 24-230VUC 24VDC3,5A	24V - 230V dc/ac	24Vdc	3.5A resistive
TOZ 24-230VUC 24VDC3,5A	24V - 230V dc/ac	24Vdc	3.5A resistive
TRS 5VDC 1CO AgSnO	5Vdc	250Vac	6A resistive
TRZ 5VDC 1CO AgSnO	5Vdc	250Vac	6A resistive
TRS 12VDC 1CO AgSnO	12Vdc	250Vac	6A resistive
TRZ 12VDC 1CO AgSnO	12Vdc	250Vac	6A resistive
TRS 24VDC 1CO AgSnO	24Vdc	250Vac	6A resistive
TRZ 24VDC 1CO AgSnO	24Vdc	250Vac	6A resistive
TRS 24VDC ACT	24Vdc	250Vac	6A resistive
TRZ 24VDC ACT	24Vdc	250Vac	6A resistive
TRS 24VUC 1CO AgSnO	24V dc/ac	250Vac	6A resistive
TRZ 24VUC 1CO AgSnO	24V dc/ac	250Vac	6A resistive
TRS 48VUC 1CO AgSnO	48V dc/ac	250Vac	6A resistive
TRZ 48VUC 1CO AgSnO	48V dc/ac	250Vac	6A resistive
TRS 60VUC 1CO AgSnO	60V dc/ac	250Vac	6A resistive
TRZ 60VUC 1CO AgSnO	60V dc/ac	250Vac	6A resistive
TRS 120VUC 1CO AgSnO	120V dc/ac	250Vac	6A resistive
TRZ 120VUC 1CO AgSnO	120V dc/ac	250Vac	6A resistive
TRS 230VUC 1CO AgSnO	230V dc/ac	250Vac	6A resistive
TRZ 230VUC 1CO AgSnO	230V dc/ac	250Vac	6A resistive
TRS 120VAC RC 1CO AgSnO	120V ac	250Vac	6A resistive
TRZ 120VAC RC 1CO AgSnO	120V ac	250Vac	6A resistive
TRS 230VAC RC 1CO AgSnO	230V ac	250Vac	6A resistive
TRZ 230VAC RC 1CO AgSnO	230V ac	250Vac	6A resistive
TRS 24-230VUC 1CO AgSnO	24V - 230V dc/ac	250Vac	6A resistive
TRZ 24-230VUC 1CO AgSnO	24V - 230V dc/ac	250Vac	6A resistive
TRS 5VDC 1CO 16A	5Vdc	250Vac	16A resistive
TRZ 5VDC 1CO 16A	5Vdc	250Vac	16A resistive

Typen und Varianten	Input Voltage	Output Voltage	Output Current per Channel
TRS 12VDC 1CO 16A	12Vdc	250Vac	16A resistive
TRZ 12VDC 1CO 16A	12Vdc	250Vac	16A resistive
TRS 24VDC 1CO 16A	24Vdc	250Vac	16A resistive
TRZ 24VDC 1CO 16A	24Vdc	250Vac	16A resistive
TRS 24VDC 1NO HC	24Vdc	250Vac	16A resistive
TRZ 24VDC 1NO HC	24Vdc	250Vac	16A resistive
TRS 24VDC 1NO HCP	24Vdc	250Vac	16A resistive
TRZ 24VDC 1NO HCP	24Vdc	250Vac	16A resistive
TRS 24VUC 1CO 16A	24V dc/ac	250Vac	16A resistive
TRZ 24VUC 1CO 16A	24V dc/ac	250Vac	16A resistive
TRS 48VUC 1CO 16A	48V dc/ac	250Vac	16A resistive
TRZ 48VUC 1CO 16A	48V dc/ac	250Vac	16A resistive
TRS 60VUC 1CO 16A	60V dc/ac	250Vac	16A resistive
TRZ 60VUC 1CO 16A	60V dc/ac	250Vac	16A resistive
TRS 120VUC 1CO 16A	120V dc/ac	250Vac	16A resistive
TRZ 120VUC 1CO 16A	120V dc/ac	250Vac	16A resistive
TRS 230VUC 1CO 16A	230V dc/ac	250Vac	16A resistive
TRZ 230VUC 1CO 16A	230V dc/ac	250Vac	16A resistive
TRS 120VAC RC 1CO 16A	120V ac	250Vac	16A resistive
TRZ 120VAC RC 1CO 16A	120V ac	250Vac	16A resistive
TRS 230VAC RC 1CO 16A	230V ac	250Vac	16A resistive
TRZ 230VAC RC 1CO 16A	230V ac	250Vac	16A resistive
TRS 24-230VUC 1CO 16A	24V - 230V dc/ac	250Vac	16A resistive
TRZ 24-230VUC 1CO 16A	24V - 230V dc/ac	250Vac	16A resistive
TRS 24-230VUC 1NO HC	24V - 230V dc/ac	250Vac	16A resistive
TRZ 24-230VUC 1NO HC	24V - 230V dc/ac	250Vac	16A resistive
TRS 24-230VUC 1NO HCP	24V - 230V dc/ac	250Vac	16A resistive
TRZ 24-230VUC 1NO HCP	24V - 230V dc/ac	250Vac	16A resistive
TOS 24VDC ACT	24Vdc	24Vdc	2A resistive
TOZ 24VDC ACT	24Vdc	24Vdc	2A resistive
TOS 24VDC 24VDC5A	24Vdc	24Vdc	5A resistive
TOZ 24VDC 24VDC5A	24Vdc	24Vdc	5A resistive
TOS 24-230VUC 24VDC5A	24V - 230V dc/ac	24Vdc	5A resistive
TOZ 24-230VUC 24VDC5A	24V - 230V dc/ac	24Vdc	5A resistive

Termseries Adaptor
Nominal voltage: 24 VDC

Job Id: **262.1-021798-1**
Certificate No: **TAA00001E5**

Connection type: plug-in connector

TIA F10	F10 pin connector, 8 channels can be connected, max. 1A per channel or as total current
TIA SUBD	Sub-D connector 15 pole, 8 channels can be connected, 1A per channel or as total current
TIAL F10	F10 pin connector, 8 channels can be connected, max 1A per channel or as total current
TIAL F20	F20 pin connector, 16 channels can be connected, max. 1A per channel or as total current

Application/Limitation

Operating and mounting instruction of the manufacturer to be observed.

Type Approval documentation

Test reports Weidmüller

LAB 16850 (25.04.2012), LAB 16948 (25.04.2012), LAB 17516 (17.05.2011), LAB 17279 (07.12.2011), LAB 17407 (16.08.2012), LAB 17403 (10.12.2011), LAB 17505 (29.11.2012), LAB 17507 (23.04.2012), LAB 17018 (22.02.2012), LAB 17081 (18.07.2011), LAB 17017 (19.07.2011), LAB 17175 (26.04.2012), LAB 17388 (31.01.2012), LAB 17389 (31.01.2012), LAB 17390 (31.01.2012), LAB 17391 (31.01.2012), LAB 17282 (07.12.2011), LAB 17783 (26.11.2012)

LAB 18516 (26.05.2014), LAB 18663 (12.08.2014)

LAB20754E (2017-01-31), LAB20947E (2016-07-07), LAB20985E (2017-04-03), LAB21240E (2017-08-24), 2016167 (RS-Schwarze)

Part lists, circuit diagrams, layouts according to submitted files

TA assessment report Weidmüller Interface GmbH & Co. KG (2016-12-05)
TA assessment report Weidmüller Interface (Suzhou) Co. Ltd. (2017-04-26)

Tests carried out

Applicable tests according to Class Guidelines DNVGL-CG-0339, November 2015.

Marking of product

☐	☐	☐	☐	☐	☐	☐
T	R Relay					
	O Optocoupler					
	S Screw					
	Z Tension					
		5, 12, 24 VDC				
		24, 48, 60, 120, 230 VUC (AC/DC)				
		120, 230 VAC RC (RC-Filter)				
		24 – 230 VUC (AC/DC)				
		1CO = 1 Change over / SPDT				
		2CO = 2 Change over / DPDT				
		1NO = 1 Normal open / SPST				
		ACT = 1 Normal open / SPST				
		Solid-State-Relay				
		48VDC0,1A = 3...48 VDC / 100 mA				
		24VDC2A = 3...33 VDC / 2 A				
		230VAC1A = 24 VAC...250 VAC / 1 A				
		24VDC3,5A = 3...33 VDC / 3,5 A				
		24VDC5A = 3...33 VDC / 5 A				
		Blank = No plating				
		AU = Gold plated contact				
		Blank = contact material AgNi				
		AGSNO = contact material AgSnO				
		16 A = 16 A version				
		HC = High current (AgSnO)				
		HCP = HC + Premaking contact (AgSnO + W)				

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with typeapproved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE