



Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

This certificate is issued to:

PRODUCER Tyco Electronics Austria GmbH
A TE Connectivity Ltd. Company
Schrackstrasse 1
3830 Waidhofen/Thaya
Austria

DESCRIPTION Miniature Relay PT (Plug-in-relay)

TYPE PT # # # ### #####
① ② ③ ④ ⑤

①	Contact Configuration	2	2 Closed Open Contacts; nominal current 12A (Thermal Current I_{th})
		3	3 Closed Open Contacts; nominal current 10A (Thermal Current I_{th})
		5	4 Closed Open Contacts; nominal current 6A (Thermal Current I_{th})
②	Contact Material	2	AgNi 90/10, without pushbutton, without mechanical lock pin
		3	AgNi 90/10 htv (hard gold plating), without pushbutton, without mechanical lock pin
		4	AgNi 90/10 hv (gold flashed), without pushbutton, without mechanical lock pin

Certificate No. 00/20059 (E10)

Issue Date 11 July 2017

Expiry Date 01 May 2022

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TYPE CONTINUATION

2	Contact Material	7	AgNi 90/10, with pushbutton, with mechanical lock pin
		8	AgNi 90/10 htv (hard gold plating), with pushbutton, with mechanical lock pin
		9	AgNi 90/10 hv (gold flashed), with pushbutton, with mechanical lock pin

All fixed contacts are plated.

Moving contacts of AgNi 90/10 versions can be solid or plated.

Moving contacts of AgNi90/10 htv resp. hv (hard gold plated resp. gold flashed) are solid only.

3	Design	0	Cover 29mm high, socket mount
		1	Cover 29mm high, solder pins
		2	Cover 29mm high with mounting flange, socket mount
		A	Cover 35,2mm high, socket mount
		B	Cover 35,2mm high, solder pins
		C	Cover 35,2mm high with mounting flange, socket mount
		4	Coil voltage V DC
L06	6V DC with red LED		
A06	6V DC with other coloured LED		
0A6	6V DC with protection diode Type I ¹		
0L6	6V DC with protection diode Type II ²		
LA6	6V DC with protection diode Type I ¹ and red LED		
AA6	6V DC with protection diode Type I ¹ and other coloured LED		
LL6	6V DC with protection diode Type II ² and red LED		
AL6	6V DC with protection diode Type II ² and other coloured LED		
012	12V DC		
L12	12V DC with red LED		
A12	12V DC with other coloured LED		
0B2	12V DC with protection diode Type I ¹		
0M2	12V DC with protection diode Type II ²		
LB2	12V DC with protection diode Type I ¹ and red LED		

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TYPE CONTINUATION

④ Coil voltage V DC

AB2	12V DC with protection diode Type I ¹ and other coloured LED
LM2	12V DC with protection diode Type IP ² and red LED
AM2	12V DC with protection diode Type IP ² and other coloured LED
021	21V DC
L21	21V DC with red LED
A21	21V DC with other coloured LED
0C1	21V DC with protection diode Type I ¹
0N1	21V DC with protection diode Type IP ²
LC1	21V DC with protection diode Type I ¹ and red LED
AC1	21V DC with protection diode Type I ¹ and other coloured LED
LN1	21V DC with protection diode Type IP ² and red LED
AN1	21V DC with protection diode Type IP ² and other coloured LED
024	24V DC
L24	24V DC with red LED
A24	24V DC with other coloured LED
0C4	24V DC with protection diode Type I ¹
0N4	24V DC with protection diode Type IP ²
LC4	24V DC with protection diode Type I ¹ and red LED
AC4	24V DC with protection diode Type I ¹ and other coloured LED
LN4	24V DC with protection diode Type IP ² and red LED
AN4	24V DC with protection diode Type IP ² and other coloured LED
048	48V DC
L48	48V DC with red LED
A48	48V DC with other coloured LED
0E8	48V DC with protection diode Type I ¹
0Q8	48V DC with protection diode Type IP ²
LE8	48V DC with protection diode Type I ¹ and red LED
AE8	48V DC with protection diode Type I ¹ and other coloured LED
LQ8	48V DC with protection diode Type IP ² and red LED
AQ8	48V DC with protection diode Type IP ² and other coloured LED

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TYPE CONTINUATION

④ Coil voltage V DC

060	60V DC
L60	60V DC with red LED
A60	60V DC with other coloured LED
0G0	60V DC with protection diode Type I ¹
0S0	60V DC with protection diode Type II ²
LG0	60V DC with protection diode Type I ¹ and red LED
AG0	60V DC with protection diode Type I ¹ and other coloured LED
LS0	60V DC with protection diode Type II ² and red LED
AS0	60V DC with protection diode Type II ² and other coloured LED
110	110V DC
M10	110V DC with red LED
B10	110V DC with other coloured LED
1B0	110V DC with protection diode Type I ¹
1M0	110V DC with protection diode Type II ²
MB0	110V DC with protection diode Type I ¹ and red LED
BB0	110V DC with protection diode Type I ¹ and other coloured LED
MM0	110V DC with protection diode Type II ² and red LED
BM0	110V DC with protection diode Type II ² and other coloured LED
220	220V DC
N20	220V DC with red LED
C20	220V DC with other coloured LED
2C0	220V DC with protection diode Type I ¹
2N0	220V DC with protection diode Type II ²
NC0	220V DC with protection diode Type I ¹ and red LED
CC0	220V DC with protection diode Type I ¹ and other coloured LED
NN0	220V DC with protection diode Type II ² and red LED
BN0	220V DC with protection diode Type II ² and other coloured LED

¹ Type I (A=+, B=-)

² Type II (A= -, B=+)

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TYPE CONTINUATION

④ Coil Voltage V AC	506	6V AC 50/60 Hz
	R06	6V AC 50/60 Hz with red LED
	F06	6V AC 50/60 Hz with other coloured LED
	512	12V AC 50/60 Hz
	R12	12V AC 50/60 Hz with red LED
	F12	12V AC 50/60 Hz with other coloured LED
	524	24V AC 50/60 Hz
	R24	24V AC 50/60 Hz with red LED
	F24	24V AC 50/60 Hz with other coloured LED
	548	48V AC 50/60 Hz
	R48	48V AC 50/60 Hz with red LED
	F48	48V AC 50/60 Hz with other coloured LED
	560	60V AC 50/60 Hz
	R60	60V AC 50/60 Hz with red LED
	F60	60V AC 50/60 Hz with other coloured LED
	600	100V AC 50/60 Hz
	S00	100V AC 50/60 Hz with red LED
	G00	100V AC 50/60 Hz with other coloured LED
	615	115V AC 50/60 Hz
	S15	115V AC 50/60 Hz with red LED
	G15	115V AC 50/60 Hz with other coloured LED
	700	200V AC 50/60 Hz
	T00	200V AC 50/60 Hz with red LED
	H00	200V AC 50/60 Hz with other coloured LED
	730	230V AC 50/60 Hz
	T30	230V AC 50/60 Hz with red LED
	H30	230V AC 50/60 Hz with other coloured LED

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TYPE CONTINUATION

⑤

May be followed by up to 4 numbers and/or letters for internal identification.

APPLICATION

Marine, offshore and industrial applications for use in environmental categories ENV1, ENV2 and ENV3 as defined in Lloyd's Register Type Approval System, Test Specification No. 1 - 1996, where the Test Specification is satisfactory for the intended use.

ADDITIONAL TESTS

Dry heat test 85°C for 16 hours
Low temperature test -40°C for 16 hours

STANDARD

EN 60947-4-1: 2010 + A1: 2013
EN 60947-5-1: 2004 + A1: 2009
EN 61810-1: 2015
EN 61984: 2009

The Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

If the specified standards are amended during the validity of this certificate, the product is to be re-approved prior to it being supplied to vessels to which the amended standards apply.

The Design Appraisal Document No. HTS/ETS 35523-17 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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Design Appraisal Document

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Date
13 July 2017

Please quote this reference number on all future communications
HPC1562216/35543-17/MK/JB/KW

**THE LLOYD'S REGISTER'S TYPE APPROVAL SYSTEM, 2015
ISSUED TO: TYCO ELECTRONICS AUSTRIA GMBH A TE CONNECTIVITY LTD. COMPANY
FOR: MINIATURE RELAY PT (PLUG-IN-RELAY)
TYPE APPROVAL CERTIFICATE NO. 00/20059 (E10)**

The undernoted documents have been reviewed for compliance with the requirements of the Lloyd's Register's Type Approval System Procedure TA14 and this Design Appraisal Document forms part of the Certificate.

APPROVAL DOCUMENTATION

ETS 48785	Application Checklist – Appendix to Form 2502TA	01.06.2017
ETS 48904	Request for Marine Services	19.06.2017
ETS 32745-15	Design Appraisal Document of previous certificate no. 00/20059 (E9)	26.11.2015
ETS 49018	Email incl. Manufacturer's Declaration of Conformity regarding Standards EN 60947-4-1:2010 + A1:2013 , EN 60947-5-1:2004 + A1:2009, EN 61810-1:2015, EN 61984:2009	03.07.2017
HPC1562216/1/VNA	Production Quality Assessment report for Tyco Electronics Austria	11.07.2017


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FINAL ACCEPTANCE OF ACTUAL ITEM(S) DEPEND(S) ON SATISFACTORY SURVEY AND TESTING

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13 July 2017

Please quote this reference number on all future communications
HPC1562216/35543-17/MK/JB/KW

Supplementary Type Approval Terms and Conditions

Type Approval certifies that a representative sample of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein. It does not mean or imply approval for any other use, nor approval of any product(s) designed or manufactured otherwise than in strict conformity with the said representative sample.

Type Approval is based on the understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations are complied with.

Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

Lloyd's Register EMEA reserves the right to cancel or withdraw this Type Approval Certificate in accordance with the LR Type Approval System Procedure.

FINAL ACCEPTANCE OF ACTUAL ITEM(S) DEPEND(S) ON SATISFACTORY SURVEY AND TESTING

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