

Miniature PCB Relay ORWH

- Compact relay with 1 form A and 1 form C contact arrangement
- 15A switching capacity
- Flux proof or sealed type available
- 6kV dielectric strength type available



Typical applications
Appliances, HVAC, emergency lighting.

Approvals

UL E82292, TUV R50138967
Technical data of approved types on request.

Contact Data

Contact arrangement	1 form A, 1 NO 1 form C, 1 CO
Rated voltage	28VDC, 277VAC
Max. switching voltage	28VDC, 277VAC
Rated current	10A
Contact material	AgZnO, AgCdO, AgNi
Min. recommended contact load	100mA, 5VDC
Frequency of operation	600 ops./h
Operate/release time max.	10ms/5ms
Electrical endurance	
AgZnO: form A, 10A, 250VAC, res., +85°C, Class B or F only	100x10 ³ ops.
AgNi: 15A, 125VAC, res., +23°C	6x10 ³ ops.
AgCdO: form A, 10A, 250VAC, res., +85°C, Class B or F only	50x10 ³ ops.
AgNi: form A, 10A, 250VAC, res., +85°C, Class B or F only	50x10 ³ ops.
AgZnO: 15A, 125VAC, res., +23°C	6x10 ³ ops.
Contact ratings, form A/form B	10A/6A 250VAC resistive 10A/6A 28VDC resistive
Mechanical endurance, DC coil	10x10 ⁶ operations

Coil Data

Coil voltage range	3 to 48VDC
Operative range, IEC 61810	2
Coil insulation system according UL	Class A, B, F

Coil versions, DC coil

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω±10 %	Rated coil power mW
003	3	2.1	0.3	25	360
005	5	3.5	0.5	70.0	360
006	6	4.2	0.6	100	360
009	9	6.3	0.9	225	360
012	12	8.4	1.2	400	360
024	24	16.8	2.4	1600	360
048	48	33.6	4.8	6400	360

All figures are given for coil without pre-energization, at ambient temperature +23°C.

Insulation Data

Initial dielectric strength	
between open contacts	750V _{rms}
between contact and coil	1500V _{rms}
Clearance/creepage	
between open contacts	>1.6mm
between contact and coil	>3.2mm
Clearance/creepage	
between open contacts, standard type	>1.6mm
for 6kV dielectrial strength type	>4mm
between contact and coil, standard type	>3.2mm
for 6kV dielectrial strength type	>4mm

Other Data

Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customer-support/rohssupportcenter	
Ambient temperature	-30°C to 85°C
Category of environmental protection IEC 61810	RTII - flux proof RTIII - wash tight
Vibration resistance (functional)	1.5mm, 10-55 Hz
Shock resistance (functional)	10g for 11msec
Shock resistance (destructive)	100g
Weight	9.5g
Resistance to soldering heat THT IEC 60068-2-20	RTII: 270°C/10s RTIII: 260°C/5s
Packaging/unit	tube/25, carton box/1000

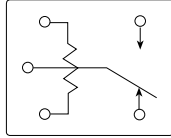
Accessories

Product Code	Description
27E1064	Socket, rated 10A at 300VAC. UL Recognized for US and Canada. Designed to fit same suggested board layout as relay.

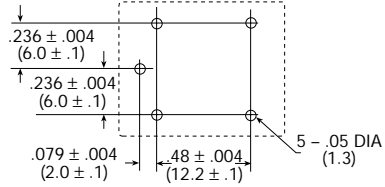
Miniature PCB Relay ORWH (Continued)

Terminal assignment

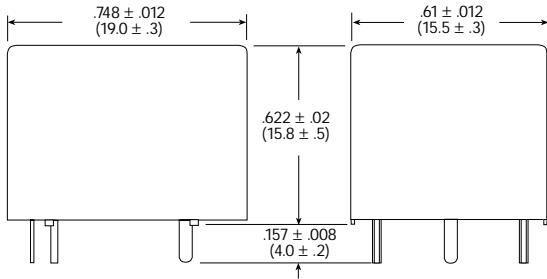
Bottom view on solder pins



PCB layout



Dimensions



TERMINAL DIMENSIONS:
COIL: 0.024 (0.6) DIA.
LOAD: 0.12 x 0.35 (0.3 x 0.9)

Product code structure	Typical product code										ORWH	-SH	-1	12	D	M	1	F	WG	,000	
Type	ORWH Miniature PCB Relay ORWH																				
Category of protection	SS Flux proof					SH Wash tight															
Number of poles	1 1 pole																				
Coil voltage	Coil code: please refer to coil versions table (e.g. 12 = 12VDC)																				
Coil version	D Standard					H High temperature type															
Contact arrangement	Blank 1 form C, 1 CO					M 1 form A, 1 NO															
Contact material	Blank AgCdo										1 AgZnO		5 AgZnO + Au plating		3 AgNi		7 AgNi + Au plating				
Insulation system designation	Blank Class 105 (A)					B Class 120 (B)					F F = Class 155 (F)										
Option material	Blank Standard					H Insulation plate use type															
Suffix	WG For domestic appliances (IEC 60335-1, 4 Edition);																				
Suffix	,000 Standard																				

Miniature PCB Relay ORWH (Continued)

Product code	Enclosure	Coil	Coil	Arrangement	Cont.mat.	Insulation	Option	Part number
ORWH-SH-105D1F,000	Wash tight	5VDC	Standard	1 From C, 1CO	AgZnO	Class F	Standard Type	1-1721150-0
ORWH-SS-105D1F,000	Flux proof			1 From C, 1CO				2071448-5
ORWH-SH-105DM1F,000	Wash tight			1 From A, 1NO				2071448-3
ORWH-SS-109D1F,000	Flux proof	9VDC		1 From C, 1CO				2071448-4
ORWH-SH-112D1F,000	Wash tight	12VDC		1 From C, 1CO				1-1721150-3
ORWH-SS-112D1F,000	Flux proof			1 From C, 1CO				1721150-5
ORWH-SH-112DM1F,000	Wash tight			1 From A, 1NO				2071448-8
ORWH-SS-112DM1F,000	Flux proof			1 From A, 1NO				2071448-2
ORWH-SH-124D1F,000	Wash tight	24VDC		1 From C, 1CO				1-1721150-5
ORWH-SS-124D1F,000	Flux proof			1 From C, 1CO				2-2071448-0
ORWH-SH-124DM1F,000	Wash tight			1 From A, 1NO				1-2071448-5
ORWH-SS-124DM1F,000	Flux proof			1 From A, 1NO				1-2071448-8
ORWH-SH-105H3F,000	Wash tight	5VDC	High temp	1 From C, 1CO	AgNi		Standard Type	2071448-6
ORWH-SS-105H3F,000	Flux proof			1 From C, 1CO				2071448-7
ORWH-SH-112H3F,000	Wash tight	12VDC		1 From C, 1CO				2071448-9
ORWH-SS-112H3F,000	Flux proof			1 From C, 1CO				1-2071448-2
ORWH-SH-112HM3F,000	Wash tight			1 From A, 1NO				1-2071448-0
ORWH-SS-112HM3F,000	Flux proof			1 From A, 1NO				1-2071448-3
ORWH-SS-118H3FH,000	Flux proof	18VDC		1 From C, 1CO			Insulation pl.	1721948-6
ORWH-SH-124H3F,000	Wash tight	24VDC		1 From C, 1CO			Standard Type	1-2071448-6
ORWH-SS-124H3F,000	Flux proof			1 From C, 1CO				1-2071448-9
ORWH-SH-124HM3F,000	Wash tight			1 From A, 1NO				1-2071448-4
ORWH-SS-124HM3F,000	Flux proof			1 From A, 1NO				1-2071448-7

Mouser Electronics

Authorized Distributor

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[TE Connectivity:](#)

[ORWH-SH-112H3F,000](#)