Power PCB Relay PCFN Solar

- **1 pole 26A/31A/33A, 1 form A (NO) contact**
- **Contact gap >1.5mm/1.8mm**
- **200mW hold power [1)]**
- **Ambient temperature up to 85°C**



Typical applications
Photovoltaic Inverter, Power Supply, On board charging

Approval

VDE Cert. No. 40012548, UL E58304
Technical data of approved types on request.

Contact Data	H type	F type
Contact form	1 form A (NO)	
Contact gap	>1.5mm/1.8mm	
Rated voltage	277VAC	277VAC
Rated current	26A	31A/33A
Breaking capacity max.	7200VA	9141VA
Contact material	$AgSnO_2$	
Initial contact resistance	100mΩ max. at 1A, 6VDC	
Frequency of operation with/without load	with load = 360/h without load = 1800/h	
Operate/release time max.	20/10ms	
Bounce time max., form A	3ms	

Contact ratings

Type	Load	Cycles
IEC 61810		
H type (PCFN-1xxH)		
NO	26A, 277VAC, resistive, 75°C	$30x10^3$
NO	22A, 250VAC, resistive, 85°C	$30x10^3$
NO	14A, 250VAC, resistive, 85°C	$100x10^3$
F type (PCFN-1xxFxxx,00000)		
NO	31A, 277VAC, resistive, 85°C	$10x10^3$
NO	Make 0.1A, carry 31A, break 0.1A, 450VDC	$10x10^3$
NO	Make 0.5A, carry 31A, break 0.5A, 100VDC	$10x10^3$
UL 508		
H type (PCFN-1xxH)		
NO	26A, 277VAC, resistive, 75°C	$30x10^3$
NO	22A, 277VAC, resistive, 85°C	$30x10^3$
F type (PCFN-1xxF)		
NO	31A, 277VAC, resistive, 85°C	$6x10^3$
NO	31A, 277VAC, resistive	$10x10^3$
Internal Test		
F type (PCFN-1xxFxxx,02300)		
NO	33A, 277VAC, resistive, 85°C	$10x10^3$
Mechanical endurance, DC coil		$1x10^6$

Coil Data

Rated coil voltage	12-24VDC
Coil insulation system according UL	Class F

Coil versions, DC coil (H type)

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω±10%	Rated coil power mW
12	12[1)]	7.8	1.2	96	1.5
24	24[1)]	15.6	2.4	384	1.5

Coil versions, DC coil (F type)

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω±10%	Rated coil power mW
12	12[1)]	7.8	1.2	112	1.3 / Min. 4.7V hold

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

Insulation Data

Initial dielectric strength	
between open contacts	$2500V_{rms}$
between contact and coil	$4000V_{rms}$
Clearance/creepage	
between open contacts	≥ 1.5/3.0mm
between contact and coil	≥ 6.1/6.1mm
Initial Insulation Resistance @ 500Vdc	$>1X10^9Ω$
Material group of insulation parts	III
Tracking index of relay base	PTI 175

Other Data

Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customersupport/rohssupportcenter	
Ambient temperature	-40~85°C[1)]
Category of environmental protection	
IEC 61810	RTII - flux proof
Vibration resistance (functional)	10G
Vibration resistance (destructive)	10G
Shock resistance (destructive)	100G
Terminal type	PCB-THT
Mounting distance	≥10mm
Weight	28g
Resistance to soldering heat THT	
IEC 60068-2-20	260°C/10s
Packaging unit	tube/20 pcs., box/500 pcs.

1) After the energization time of 100ms with the rated coil voltage, the coil requires a reduction to 40%...50% of the rated coil voltage.
2) The relay connections and wiring have to be designed with an adequate cross sections to ensure the current flow and heat dissipation.

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Catalog and product specification according to IEC 61810-1 and to be used only together with the 'Definitions' section.

Catalog and product data is subject to the terms of the disclaimer and all chapters of the 'Definitions' section, available at http://relays.te.com/definitions

Catalog product data, 'Definitions' section, application notes and all specifications are subject to change.

Power PCB Relay PCFN Solar (Continued)

Dimensions

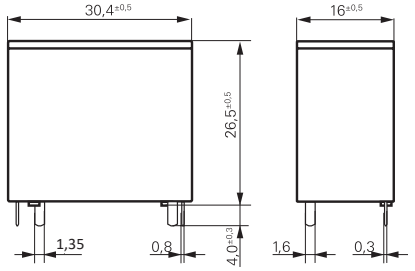
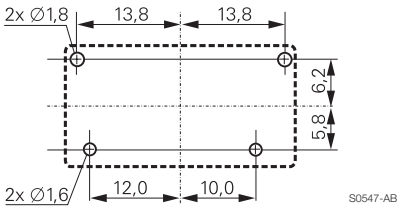


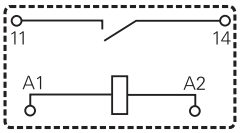
DIAGRAM DIMENSION	TOLERANCE
0.99mm MAX.	±0.1mm
1-2.99mm	±0.2mm
3mm MIN.	±0.3mm

Note. For the Tin-plating of the pins:
±0.1mm for width, thickness and diameter.
±0.5mm for length.

PCB layout / terminal assignment

Bottom view on solder pins





NOTE: it is recommended to connect the grid (phase or neutral line) to pin 11 of the PCFN Solar.

Product code structure Typical product code	**PCFN**	**-1**	**12**	**H**	**2**	**M**	**G**	**,00000**

Type
PCFN Without fasten terminal

Contact arrangement
-1 Single Pole

Coil Voltage
12 12VDC
24 24VDC

Coil Sensitivity
H Low Sensitivity
F Speical Sensitivity

Contact Material
2 $AgSnO_2$

Contact Configuration
M 1 Form A (SPST-NO)

Contact Gap
none standard
G 1.5mm
S 1.8mm

Suffix
,00000 Standard version
,x2xxx Contact gap 1.8mm version
,xxxxx Customized version, e.g.“02300“ stands for 33A marked version

Product code	Version	Contact arrangement	Contact material	Coil	Part number
PCFN-112H2MS,02000	PCB, flux proof	1 form A (NO) contact	$AgSnO_2$	12VDC	2071169-1
PCFN-124H2MS,02000	PCB, flux proof	1 form A (NO) contact	$AgSnO_2$	24VDC	2071169-2
PCFN-112F2MG,00000	PCB, flux proof	1 form A (NO) contact	$AgSnO_2$	12VDC	2071504-1
PCFN-112F2MS,02300	PCB, flux proof	1 form A (NO) contact	$AgSnO_2$	12VDC	2071504-3

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1-794222-0 2-292161-3 CPF0402B37K4E1 RH73H2A40MKTN 1393431-1 141991-2 1743455-2 3631B101LL 917696-1 SBCHE154R7K 1903112-2 1969656-1 2005330-1 936348-1 MPT100C18RF 2380312-2 3430B2F51RTDF U5254-000005-030PA 175977-2 2310537-1 3-1393225-0 650075-000 SBCHE64R7K 1-962915-1 CRGCQ2010J3K3 ROX05SJ18R TE50BR39J 2377783-2 2834055-1 SMW73R0JT