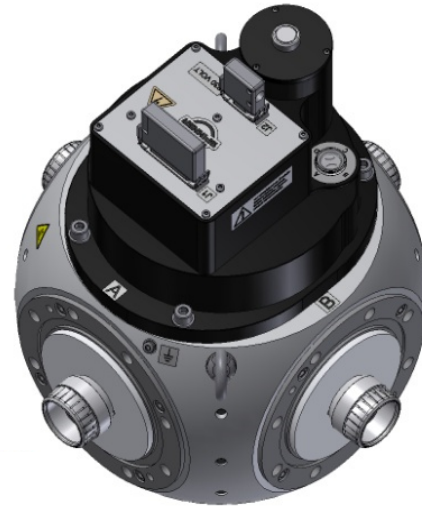


Coaxial Two Way Switch (DPDT) || BN 941944



Typical illustration

Radio frequency characteristics

Interface type (4 connections)	4 1/2" EIA according to EN 122150 (threaded flanges)			
Characteristic impedance	50 Ω			
Frequency range	1 MHz	10 MHz	100 to 230 MHz	230 to 860 MHz
VSWR, max.	1.04	1.04	1.04	1.06
Isolation, min.	80 dB	80 dB	80 dB	70 dB
Insertion loss, max.	0.03 dB			
Average power capability * at ambient temperature -10 to +45°C	600 kW	200 kW	70 kW	38 kW
Peak voltage capability *	16 kV			

Electrical and mechanical characteristics

Switch type	Two way switch, DPDT	
Actuator type	Motor drive, latching, self cutoff	
Connector J2 ** for mains connection	5 pole SPINNER connector BN 126920, certified according to VDE-Reg. No. B687, DIN EN 61984: 2009-11; EN 61984: 2009	
Mains connection	L, N, PE, TN-System	
Operating	Operating voltage	187 to 253 V AC 50/60 Hz
	Current, typ. ***	1.5 A
	Nominal fuse	The switch must be externally fused by time-delay, 2 A
Connector J1 ** for control, interlock contacts and signaling	25 pole connector according to DIN 41652 / IEC 807-2	
Control	Control voltage	SELV circuits according to IEC EN 60950-1, 8 to 31 V DC
	Current, typ.	12 mA at control voltage 24 V DC
	Current limiting	The circuit must be externally limited to 0.5 A

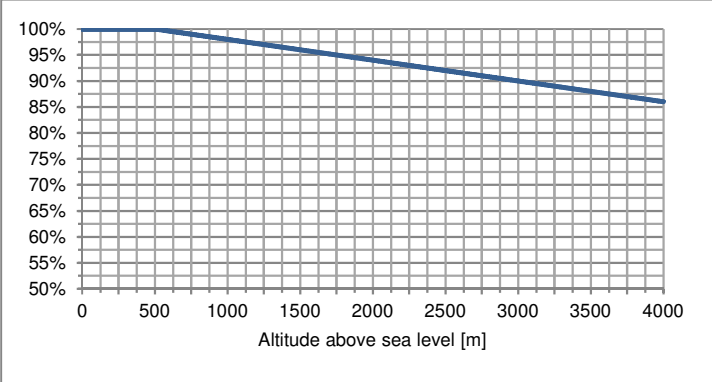
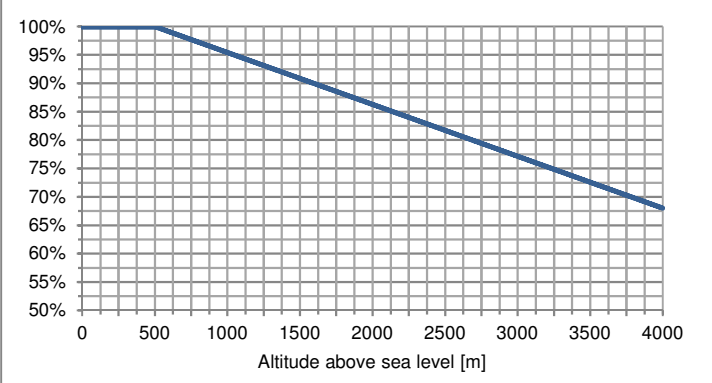
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Template TD-00002Y

Coaxial Two Way Switch (DPDT) || BN 941944

Signal contacts Interlock contacts	Lead time, typ.***	200 ms (the interlock/signal contacts open 200 ms before and close 200 ms after switching of the RF contacts)
	Maximum ratings	SELV circuits according to IEC EN 60950-1, 42.4 V ACpk / 60 V DC / 0.5 A
	Current limiting	The circuit must be externally limited to 0.5 A
Switching time, typ.***		1.0 s
Command hold time, min.		1.0 s (during this time, the voltage at control input must not change)
Switching frequency, max.		3 cycles per minute, max. 30 cycles per hour (6 operations per minute, max. 60 operations per hour)
Life, min.		250,000 cycles (500,000 operations)
Weight, approx.		26.5 kg

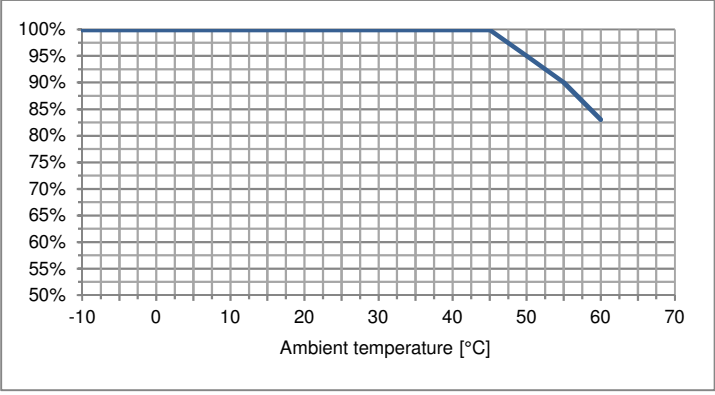
Environmental conditions

Operational conditions	ETSI EN 300 019-1-3 V2.3.2 (2009-1) class 3.1 N																				
Ambient temperature ****	-10 to +60°C																				
Condensation	Not allowed																				
Relative humidity, max.	95%																				
Derating of input power with increasing altitude	<p>The maximum input power can be applied up to 500 m or 1600 ft above sea level unless noted otherwise in the data sheet. Above this height the maximum input power must be reduced as shown in the diagram.</p>  <table border="1"> <caption>Derating of input power with increasing altitude</caption> <thead> <tr> <th>Altitude [m]</th> <th>Power (%)</th> </tr> </thead> <tbody> <tr><td>0</td><td>100</td></tr> <tr><td>500</td><td>100</td></tr> <tr><td>1000</td><td>98</td></tr> <tr><td>1500</td><td>96</td></tr> <tr><td>2000</td><td>94</td></tr> <tr><td>2500</td><td>92</td></tr> <tr><td>3000</td><td>90</td></tr> <tr><td>3500</td><td>88</td></tr> <tr><td>4000</td><td>85</td></tr> </tbody> </table>	Altitude [m]	Power (%)	0	100	500	100	1000	98	1500	96	2000	94	2500	92	3000	90	3500	88	4000	85
Altitude [m]	Power (%)																				
0	100																				
500	100																				
1000	98																				
1500	96																				
2000	94																				
2500	92																				
3000	90																				
3500	88																				
4000	85																				
Derating of voltage with increasing altitude	<p>The maximum voltage can be applied up to 500 m or 1600 ft above sea level unless noted otherwise in the data sheet. Above this height the voltage must be reduced as shown in the diagram.</p>  <table border="1"> <caption>Derating of voltage with increasing altitude</caption> <thead> <tr> <th>Altitude [m]</th> <th>Voltage (%)</th> </tr> </thead> <tbody> <tr><td>0</td><td>100</td></tr> <tr><td>500</td><td>100</td></tr> <tr><td>1000</td><td>90</td></tr> <tr><td>1500</td><td>80</td></tr> <tr><td>2000</td><td>70</td></tr> <tr><td>2500</td><td>65</td></tr> <tr><td>3000</td><td>60</td></tr> <tr><td>3500</td><td>55</td></tr> <tr><td>4000</td><td>50</td></tr> </tbody> </table>	Altitude [m]	Voltage (%)	0	100	500	100	1000	90	1500	80	2000	70	2500	65	3000	60	3500	55	4000	50
Altitude [m]	Voltage (%)																				
0	100																				
500	100																				
1000	90																				
1500	80																				
2000	70																				
2500	65																				
3000	60																				
3500	55																				
4000	50																				

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Coaxial Two Way Switch (DPDT) || BN 941944

<p>Derating of input power with increasing ambient temperature</p>	<p>The maximum input power can be applied up to +45°C ambient temperature unless noted otherwise in the data sheet. Above this ambient temperature the maximum input power must be reduced as shown in the diagram.</p>  <table border="1"> <caption>Derating of input power with increasing ambient temperature</caption> <thead> <tr> <th>Ambient temperature [°C]</th> <th>Input Power (%)</th> </tr> </thead> <tbody> <tr><td>-10</td><td>100</td></tr> <tr><td>0</td><td>100</td></tr> <tr><td>10</td><td>100</td></tr> <tr><td>20</td><td>100</td></tr> <tr><td>30</td><td>100</td></tr> <tr><td>40</td><td>100</td></tr> <tr><td>45</td><td>100</td></tr> <tr><td>50</td><td>95</td></tr> <tr><td>55</td><td>88</td></tr> <tr><td>60</td><td>80</td></tr> </tbody> </table>	Ambient temperature [°C]	Input Power (%)	-10	100	0	100	10	100	20	100	30	100	40	100	45	100	50	95	55	88	60	80
Ambient temperature [°C]	Input Power (%)																						
-10	100																						
0	100																						
10	100																						
20	100																						
30	100																						
40	100																						
45	100																						
50	95																						
55	88																						
60	80																						

Max. altitude above sea level	4,000 m or 13,120 ft according to IEC EN 60664-1
Protection class	I according to IEC EN 61140
IP protection level	IP40 according to IEC EN 60529 (all interfaces terminated)
Installation position	Any
Transport conditions	ETSI EN 300 019-1-2 V2.1.4 (2003-04) class 2.2
Ambient temperature	-25 to +70°C
Rain, condensation, icing	Not allowed
Storage conditions	ETSI EN 300 019-1-1 V2.1.4 (2003-04) class 1.2
Ambient temperature	-10 to +60°C
Rain, condensation, icing	Not allowed

- * *Standard conditions:*
Dielectric: Dry air under standard pressure at sea level (p = 1013 hPa)
Load VSWR, max. 1.0 (no standing wave)
No modulation, sinusoidal carrier only
- ** *Suitable mating connector included*
- *** *At room temperature and nominal voltage 230 V AC, 50 Hz*
- **** *Extended temperature range on request*

Applicable documents

Product manual	M36192
----------------	--------

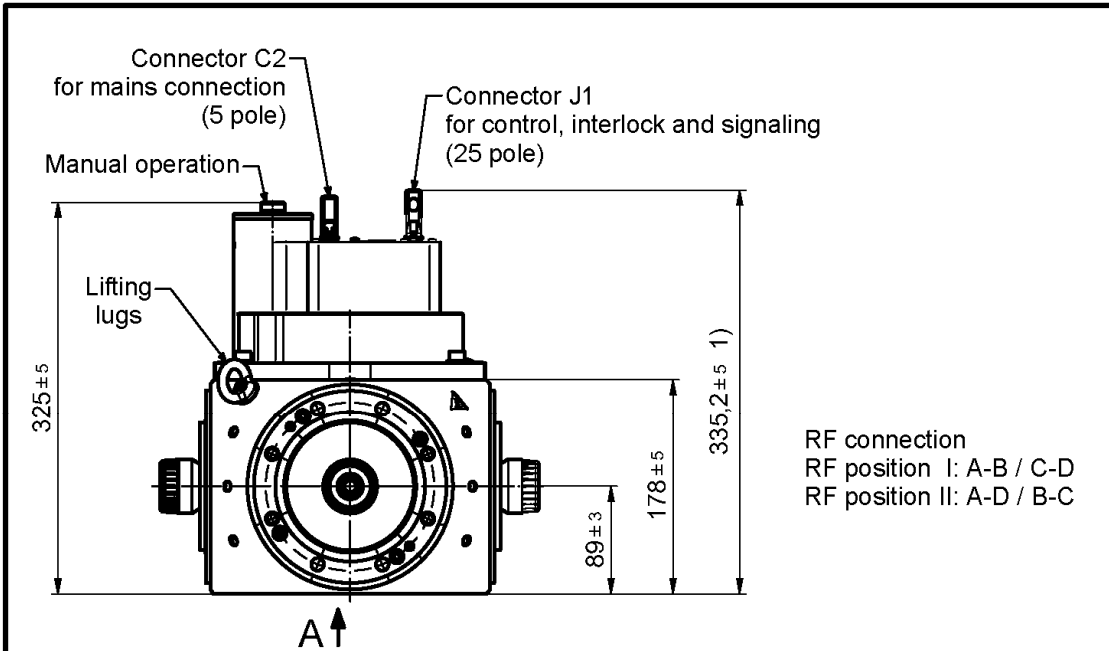
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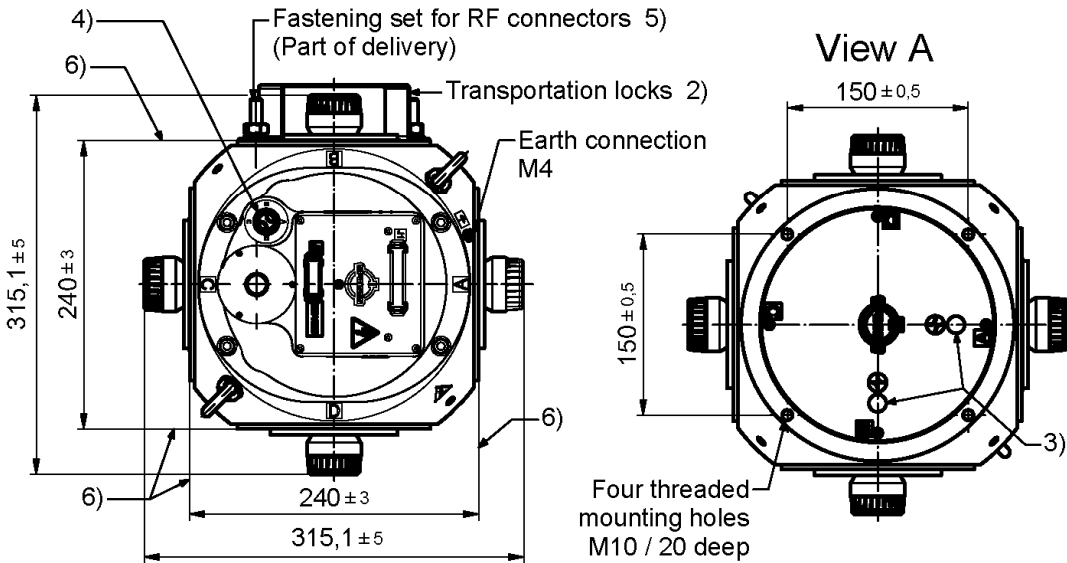
Coaxial Two Way Switch (DPDT) || BN 941944

Outline (all dimensions in millimeter)

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Freigegeben



- 1) + 10 mm to disconnect the connectors
- 2) Only shown once. Please remove before installation
- 3) Position indicators bottom side - current position is shown by white dot (marking)
- 4) Position indicator top side - current position is shown by pictogram
- 5) Altogether 32 (8 used for transportation locks)
- 6) Reference plane for respective port

Maßangaben in mm Dimensions in mm		Projektion E: Projection E:		Maßstab: / Scale: 1 : 5	
Allgemeintoleranzen: DIN ISO General tolerances: 2768mH		Datum: Date:	Name: Name:	Bezeichnung: Title:	
Erstellt: Creator:	23.09.2019	Hupfauer	coaxial two way switch		
Gepüft: Checked:	23.09.2019	Hupfauer	4 1/2" EIA (50 ohms)		
			Zeichnungs-Nr.: Drawing-No.:		
			941944-0E		
			Format: Format:	Blatt: Sheet:	1
			A4	von: of:	1
A Startindex: 23.09.2019		Hupfauer			

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25-pol. Stecker (DIN 41652)
 Maximal zulässige Werte 42.4 V AC_{pk} / 60 V DC / 0.5 A
 25 pole connector (DIN 41652)
 Maximum ratings 42.4 V AC_{pk} / 60 V DC / 0.5 A



Signalkontakte
 Signal contacts

Signalkontakte
 Signal contacts

Es darf nicht gleichzeitig HF-Pos. I und HF-Pos. II angesteuert werden, da dies zur Beschädigung des Schalters führt
 RF pos. I and RF pos. II must not accessed the same time, this will lead to a switch damage

Ansteuerspannung
 Control voltage
 Uc: 8...31 V DC

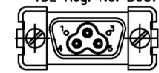
Betriebsspannung
 Operating voltage
 187...253 V AC 50/60 Hz

Achtung:
 Gerät ist extern mit 2 AT abzusichern!

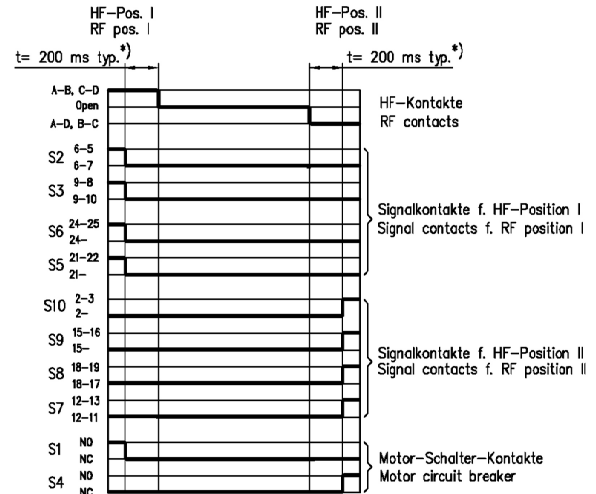
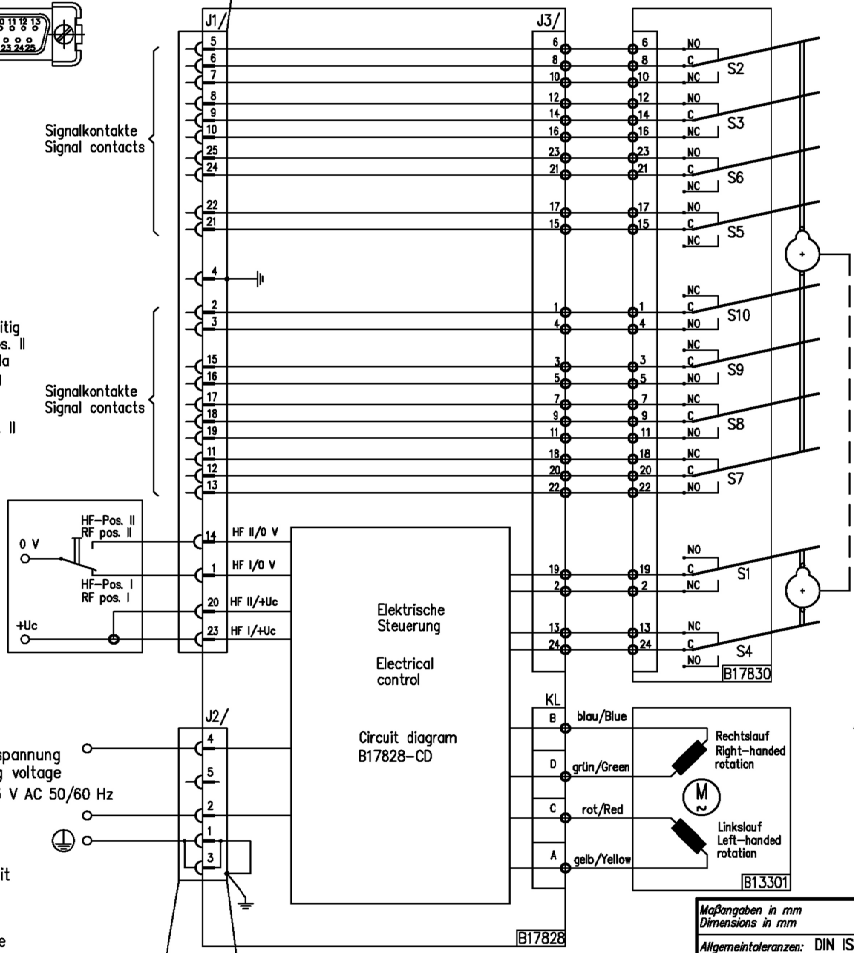
Attention:
 The switch must be externally fused by time-delay 2 A

5-pol. Stecker
 5 pole connector
 BN 126919
 VDE Reg. No. B687

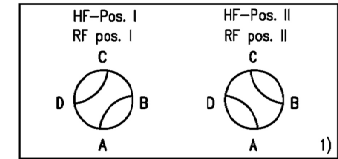
5-pol. Stecker
 5 pole connector
 BN 126920
 VDE Reg. No. B687



Schalter dargestellt in HF-Position I
 Switch shown in RF position I

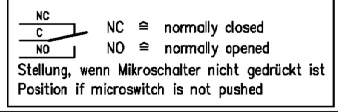


*) Bei Raumtemperatur und Nennspannung 230 V AC
 *) At room temperature and nominal voltage 230 V AC



1) Bei Verwendung als Umschalter muss ein Anschluss abgeschlossen werden
 1) If used as a change-over switch (SPDT) one port must be terminated

Achtung: Signalkontakte auch als Trägersicherheitskontakte verwendbar!
 Attention: Signal contacts can be also used as interlock contacts



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Maßangaben in mm Dimensions in mm		Projektion E: Projection E:		Maßstab: / Scale: 1:1	
Allgemeintoleranzen: DIN ISO 2768mH General tolerances:		Datum: Date:	Name: Name:	Bezeichnung: Title:	
Erstellt: Created:	27.03.2012	Frank		circuit diagram	
Geprüft: Checked:	28.07.2016	Hupfauer		coaxial two way switch 187 to 253 V AC control voltage 8 to 31 V DC	
D 01-16128/28.07.2016	Hupfauer	Spinner GmbH		Zeichnungs-Nr.: Drawing-No.:	Format: Format:
C 01-14300/14.07.2015	Hupfauer	Erzglasserstr. 33		B17827-CD	A3
B 01-10772/18.12.2013	Hartmann	D-80335 München		von: of:	
A Startindex: 27.03.2012	Frank				



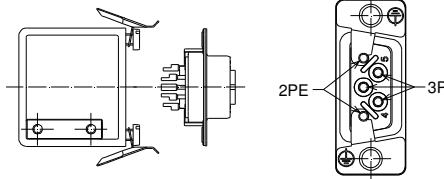
Coaxial Two Way Switch (DPDT) || BN 941944

Cable socket

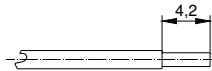
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Anleitung für den Kabelanschluss
Instructions for cable connection

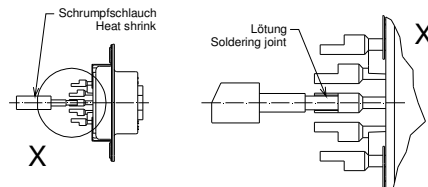
- Entfernen des Schutzgehäuses
Removing of the protective housing



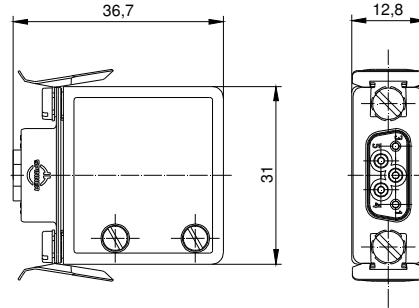
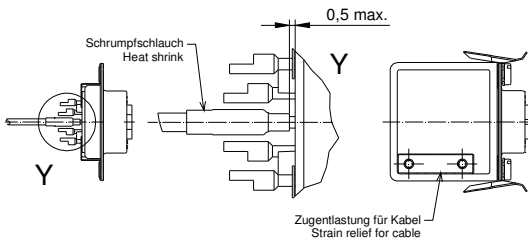
- Absetzen der Kabellitzen
Trimming of the cable strands



- Anbringen der drei Schrumpfschläuche (PIN 2/4/5)
Placing of the three heat shrinks (pins 2/4/5)
- Löten der fünf Kabellitzen
Soldering of the five cable strands



- Aufschrumpfen der drei Schrumpfschläuche (PIN 2/4/5)
Shrinking three heat shrinks (pins 2/4/5)
- Montage des Schutzgehäuses
Assembling of the protective housing



Technical data

5-polige Kabelkupplung 5 pole cable socket	ohne Schaltleistung Without breaking capacity
Bemessungsspannung Rated voltage	250 V AC
Bemessungsstrom Rated current	2 A
Bemessungsstoßspannung Rated impulse voltage	2.5 kV
Polzahl Number of poles	3P + 2PE
Anschlussart Kind of termination	Lötanschluss Solder termination
Leiterquerschnitt Cross section area	Max. 0.75 mm ² / min. 0.50 mm ²
Kabeldurchmesser Values for cable clamp	Ø 6 mm ... Ø 8 mm
Temperaturbereich Temperature range	-25 °C ... +85 °C
Steckzyklen Operation cycles	10
Schutzart Degree of protection	IP 20 nach / acc. to IEC EN 60529
Verschmutzungsgrad Degree of pollution	2
Max. Einsatzhöhe über N.N. Max. altitude above sea level	4000 m / 13,120 ft nach / acc. to IEC EN 60664-1
Schrumpfschlauch über Pins 2/4/5 Heat shrink above pins 2/4/5	
Zertifiziert nach Certified according to	VDE-Reg.-No. B687 DIN EN 61984: 2009-11; EN 61984: 2009
Zugelassene Steckerleiste Approved plug connector	BN 126920

Beim Anschluss eines Kabels sind die gültigen Sicherheitsvorschriften zu beachten!
Please attend the valid safety rules for assembling!

Konstruktionsänderungen vorbehalten
Design is subject to change without notice

Maßangaben in mm Dimensions in mm		Projektion E: Projection E:		Maßstab: / Scale:	
Allgemeintoleranzen: General tolerances: DIN ISO 2768mH		Datum: Date:	Name: Name:	Bezeichnung: Title:	
Inter: Revision:	Änd.-Nr.: Issue-No.:	Erstellt: Creator:	31.01.2011 Frank	Kabelkupplung cable socket	
Datum: Date:	Name: Name:	Geprüft: Checked:	12.12.2013 Hartmann	5-polig / 5 pole, 250 VAC	
D 01-1077203.12.2013	Hartmann	Spinner GmbH Erzgießereistr. 33 D-80335 München		Zeichnungs-Nr.: Drawing-No.:	Format: Format:
C 01-0907127.02.2013	Hupfauer			126919-0E	Blatt: Sheet:
B DIV.CORP01.02.2011	Frank			von: of:	1
A Startindex	31.01.2011			Frank	1

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Template TD-00002Y

Coaxial Two Way Switch (DPDT) || BN 941944

Accessories (optional)
 Installation kit BN 941934C3000

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Installation kit BN 941934C3000:

Identification marking

250 ± 1

226 ± 0.2

17 (width across flats)

4x mounting holes
4x $\varnothing 10,6$ thru

$\varnothing 195 \pm 1$

226 ± 0.2

250 ± 1

□ (150)

Installation instructions for BN 941934C3000-installation kit:

Coaxial two way switch
BN 941934XXXXX (4 1/16")
or BN 941944XXXXX (4 1/2")

Mating plate

Washer B10.5

Screw M10x30 (4x)

use a torque wrench to tighten the
bolted connections to 46 Nm

X (1:1)

18

(20,5 ± 0,5)

10 ± 0.5

18

36,4

8,4

1x mounting plate (aluminum)

4x washer B10.5 DIN125 - A2-70 (stainless steel)

4x screw M10x30 DIN933 - A2-70 (stainless steel)

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Do not use the installation kit to support additional mechanical loads.

Maßstab / Scale: 1 : 2,5	
Projektion E / Projection E:	Beschriftung / Label:
Erteilt / Created: 28.08.2019 Geprüft / Checked: 03.09.2019	Name / Name: Preckl Hupflauer
Installation kit for coaxial two way switch (DPDT) for 4 1/16" (50 ohms) / 4 1/2" (50 ohms)	
Zeichnungs-Nr. / Drawing No.: 941934C3000-0E	
Blatt / Sheet: 1 of 1	
Formel / Formula: A3	
Spinnerricht / Edition: 33 D-8035 München	
A Startdate: 28.08.2019	B Aktual: 03.09.2019
C Revisions:	D Datum: 27.08.2019
Name:	Datum:
Gezeichnet:	Geprüft:
DIN ISO 2768mH	DIN ISO
Dimensionen in mm / Dimensions in mm:	Projektion E / Projection E: