

Coaxial Two Way Switch (DPDT) | BN 512690C0002

Fully compatible to BN 512690



Typical illustration

Radio frequency characteristics

Interface type (4 connections)	7-16 female (50 Ω) according to IEC 61169-4					
Characteristic impedance	50 Ω					
Frequency range	0 to 1 GHz	1 to 2 GHz	2 to 3 GHz	3 to 4 GHz	4 to 5 GHz	5 to 6 GHz
VSWR, max.	1.04	1.08	1.08	1.12	1.20	1.35
Isolation, min.	80 dB	80 dB	80 dB	60 dB	50 dB	40 dB
Insertion loss, max.	0.05 dB	0.05 dB	0.10 dB	0.10 dB	0.10 dB	0.20 dB
Average power capability <sup>RFC1)</sup> at ambient temperature -10 to +45°C	2.0 kW	1.4 kW	1.1 kW	1.0 kW	0.9 kW	0.8 kW
Peak voltage capability <sup>RFC1)</sup>	4.0 kV					

*RFC1) 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*

Electrical and mechanical characteristics

Switch type	Two way switch, DPDT	
Actuator type	Solenoid drive, latching, self cutoff	
Connector 1 <sup>EMC1)</sup> for operating voltage, control, interlock contacts and signaling	25 pole connector according to DIN 41652 / IEC 807-2	
Operating	Operating voltage	21.6 to 28 V DC
	Operating current, typ. <sup>EMC2)</sup>	1.1 A
	Standby current, max. <sup>EMC2)</sup>	25 mA
	Nominal fuse	The switch must be secured externally by a time-delay fuse, 2 A
Control	Control voltage	U In LOW = 0 to 4 V DC / -0.7 mA ( 0 - active ) U In HIGH = 8 to 32 V DC
	Current limiting	The circuit must be limited externally to 0.5 A
Signal contacts Interlock contacts	Lead time typ. <sup>EMC2)</sup> (only interlock contacts)	5 ms (the interlock contacts open 5 ms before and close 2 ms after switching of the RF contacts)
	Maximum ratings	ES1 circuits according to EN 62368-1, 42.4 V ACpk / 60 V DC / 0.5 A
	Current limiting	The circuit must be limited externally to 0.5 A
Switching time, typ. <sup>EMC2)</sup>	100 ms	
Command hold time, min.	100 ms (during this time, the voltage at control input must not change)	
Switching frequency, max.	30 operations per minute	

SPINNER GmbH  
 This document is proprietary to us.  
 All rights reserved. Any use, transfer, or reproduction of this document  
 or the know-how contained therein requires our express consent.

Template 10014442.dotx



## Coaxial Two Way Switch (DPDT) | BN 512690C0002

Lifetime, min.	500,000 operations
Weight, approx.	1.2 kg

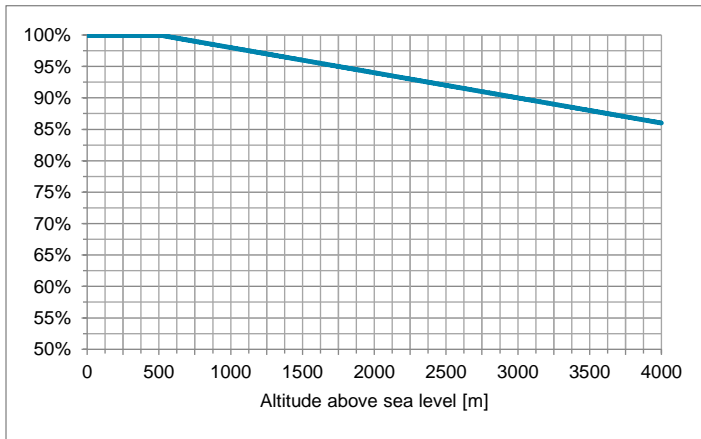
EMC1) Suitable mating connector included  
 EMC2) At room temperature and nominal voltage 24 V DC

### Environmental conditions

<b>Operational conditions</b>	ETSI EN 300 019-1-3 V2.3.2 (2009-1) class 3.1 N
Ambient temperature <sup>EC1)</sup>	-10 to +60°C
Condensation	Not allowed
Relative humidity, max.	95%

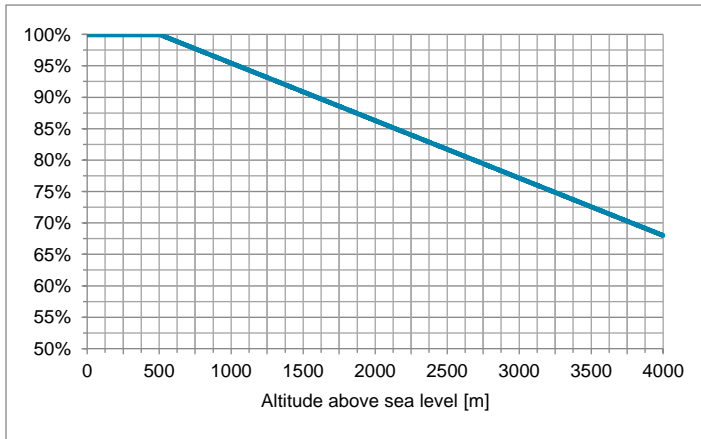
The maximum input power can be applied up to 500 m or 1600 ft above sea level unless noted otherwise in the data sheet. Above this height the maximum input power must be reduced as shown in the diagram.

Derating of input power with increasing altitude



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.

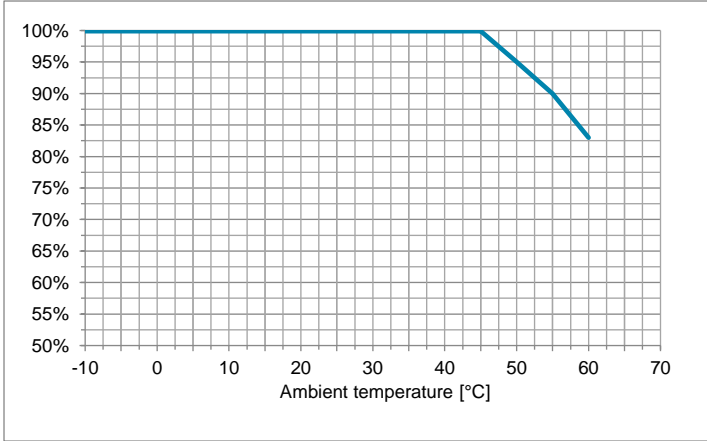
Derating of voltage with increasing altitude



SPINNER GmbH  
 This document is proprietary to us.  
 All rights reserved. Any use, transfer, or reproduction of this document  
 or the know-how contained therein requires our express consent.

Template 10014442.dotx

Coaxial Two Way Switch (DPDT) | BN 512690C0002

<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>92.5</td></tr> <tr><td>60</td><td>83</td></tr> </tbody> </table>	Ambient temperature [°C]	Input Power (%)	-10	100	0	100	10	100	20	100	30	100	40	100	45	100	50	92.5	60	83
Ambient temperature [°C]	Input Power (%)																				
-10	100																				
0	100																				
10	100																				
20	100																				
30	100																				
40	100																				
45	100																				
50	92.5																				
60	83																				
<p>Max. altitude above sea level</p>	<p>4,000 m or 13,120 ft according to IEC EN 60664-1</p>																				
<p>Protection class</p>	<p>III according to IEC EN 61140</p>																				
<p>IP protection level</p>	<p>IP40 according to IEC EN 60529 (all interfaces terminated)</p>																				
<p>Installation position</p>	<p>Any</p>																				
<p><b>Transport conditions</b></p>	<p>ETSI EN 300 019-1-2 V2.1.4 (2003-04) class 2.2</p>																				
<p>Ambient temperature</p>	<p>-25 to +70°C</p>																				
<p>Rain, condensation, icing</p>	<p>Not allowed</p>																				
<p><b>Storage conditions</b></p>	<p>ETSI EN 300 019-1-1 V2.1.4 (2003-04) class 1.2</p>																				
<p>Ambient temperature</p>	<p>-10 to +60°C</p>																				
<p>Rain, condensation, icing</p>	<p>Not allowed</p>																				

EC1) Extended temperature range on request

Applicable documents

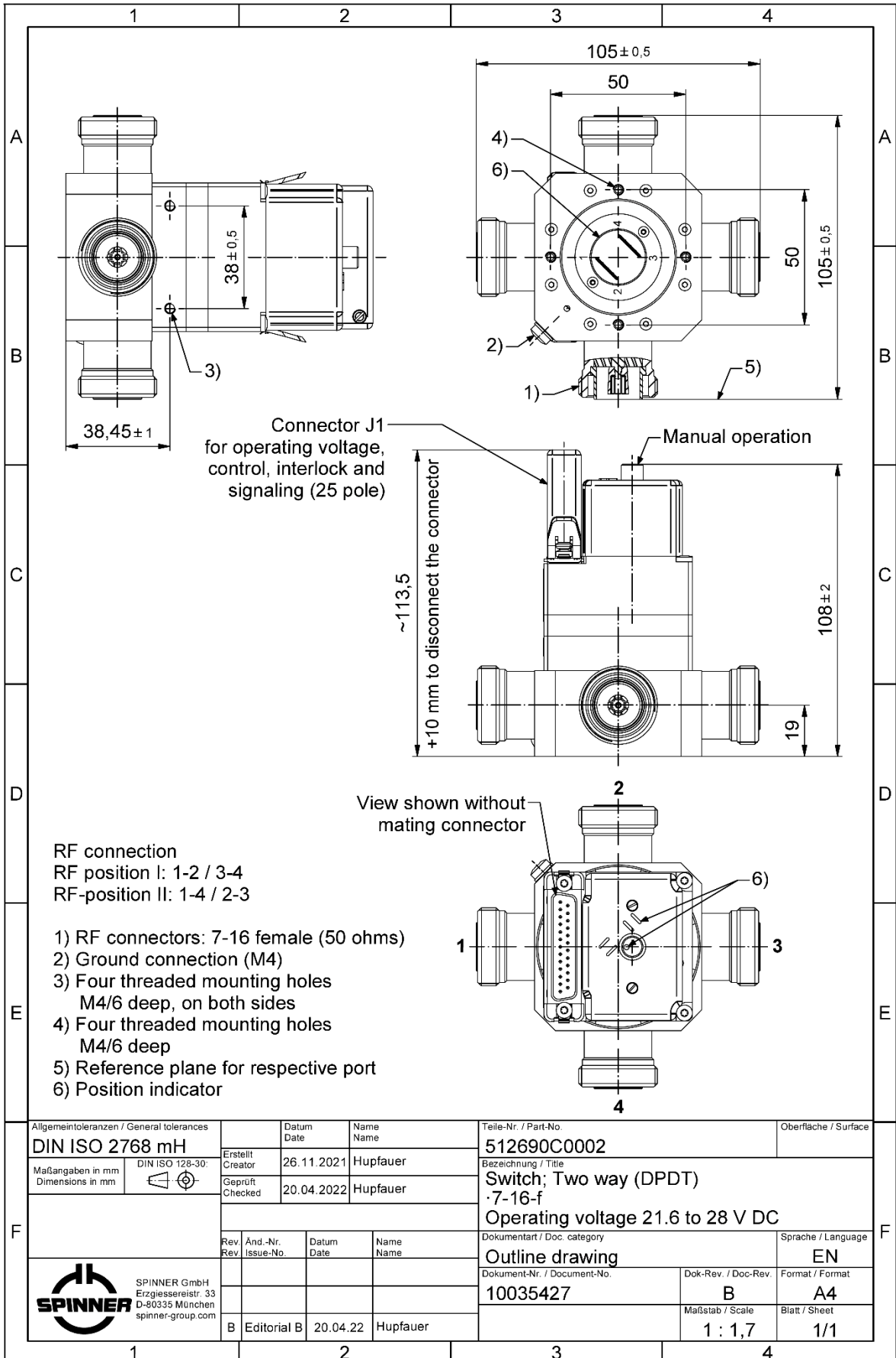
<p>Product manual</p>	<p>M36311</p>
-----------------------	---------------

SPINNER GmbH  
 This document is proprietary to us.  
 All rights reserved. Any use, transfer, or reproduction of this document  
 or the know-how contained therein requires our express consent.

Coaxial Two Way Switch (DPDT) | BN 512690C0002

Outline (all dimensions in millimeter)

SPINNER GmbH 2022, alle Rechte vorbehalten.  
Schutzvermerk ISO 16016 beachten.  
SPINNER GmbH 2022, all rights reserved.  
Refer to protection notice ISO 16016.



SPIClass  
PUBLIC

Freigegeben  
Released

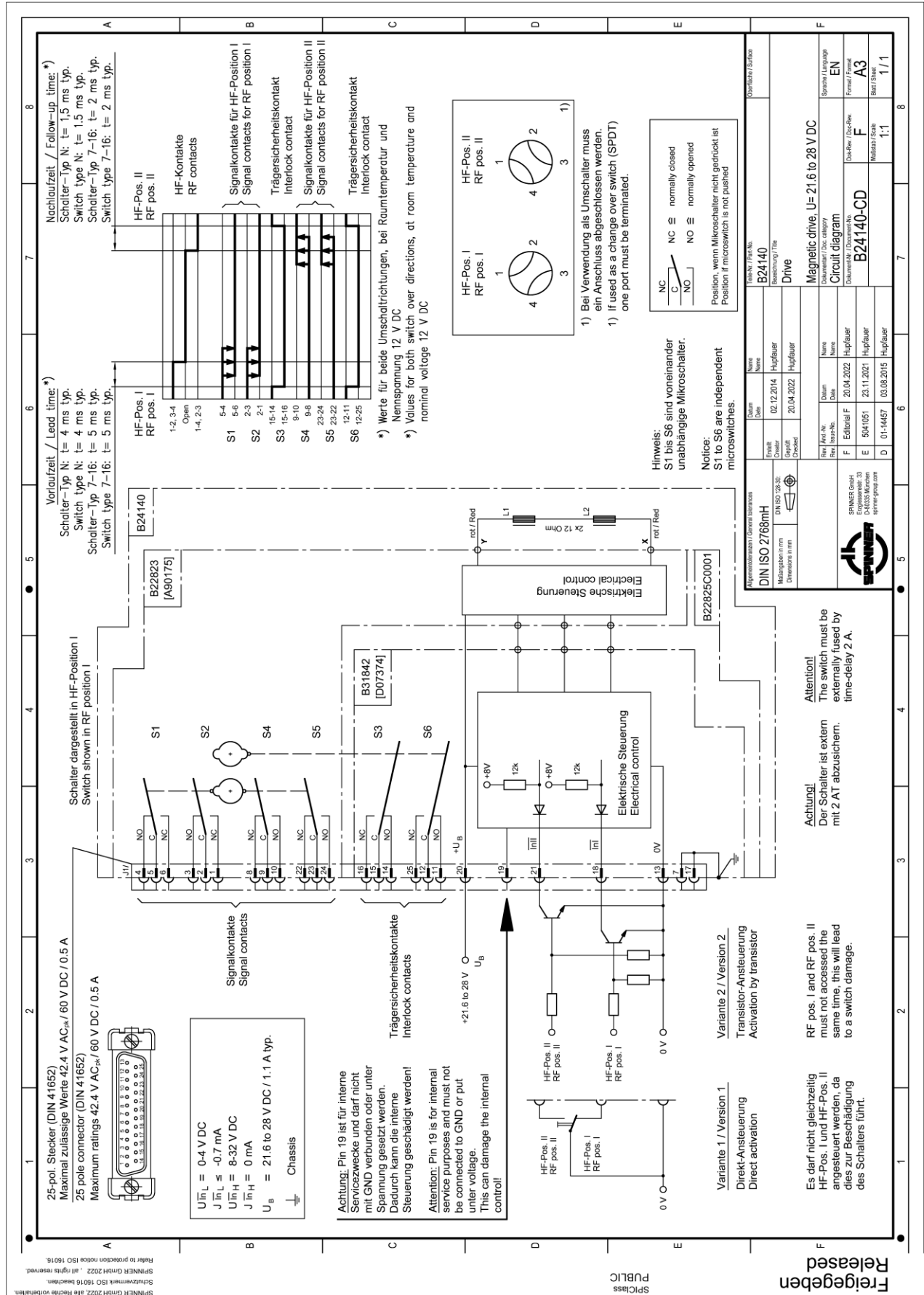
Allgemeintoleranzen / General tolerances <b>DIN ISO 2768 mH</b>		Datum Date	Name Name	Teile-Nr. / Part-No. <b>512690C0002</b>	Oberfläche / Surface
Maßangaben in mm Dimensions in mm	DIN ISO 128-30 	Erstellt Creator	26.11.2021 Hupfauer	Bezeichnung / Title <b>Switch; Two way (DPDT) ·7-16-f Operating voltage 21.6 to 28 V DC</b>	
		Geprüft Checked	20.04.2022 Hupfauer	Dokumentart / Doc. category <b>Outline drawing</b>	Sprache / Language <b>EN</b>
		Rev Rev	And.-Nr. Issue-No	Datum Date	Name Name
				Dokument-Nr. / Document-No. <b>10035427</b>	Dok.-Rev. / Doc-Rev. <b>B</b>
				Maßstab / Scale <b>1 : 1,7</b>	Format / Format <b>A4</b>
					Blatt / Sheet <b>1/1</b>
		B	Editorial B	20.04.22	Hupfauer

SPINNER GmbH  
This document is proprietary to us.  
All rights reserved. Any use, transfer, or reproduction of this document  
or the know-how contained therein requires our express consent.

Template 10014442.dwt

Coaxial Two Way Switch (DPDT) | BN 512690C0002

Circuit diagram



SPINNER GmbH  
 This document is proprietary to us.  
 All rights reserved. Any use, transfer, or reproduction of this document  
 or the know-how contained therein requires our express consent.

SPINNER GmbH 2022, alle Rechte vorbehalten.  
 SPINNER GmbH 2022, all rights reserved.  
 Refer to protection notice ISO 15016.

SPIClass PUBLIC

Freigegeben Released