Manufacturer`s Declaration of Conformity

Hirschmann Automation and Control GmbH

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declares in sole responsibility, that the product(s)

Bobcat Rail Switch

(Product description)

BRS20, BRS22, BRS30, BRS32, BRS40, BRS42, BRS50, BRS52

with the following possible product codes:

BRS20-[04|05|06|08|09|10|11|12|16|20|24] [00] [99|M2|M4|S2|S4|E2|L2|G2|Z6|MM|NN|VV|UU|EE|LL|GG|ZZ] [99|M2|M4|S2|S4|E2|L2|G2|Z6|ZZ]-[S|C|T|E|G] [T|F] [C|D|E] n* n* 9 nn S [E|P] [S|A|B] nn.n.nn-nn**

BRS22-[08] [00] [99] [99]-[S|C|T|E|G] [U] [C|D|E] n* n* 9 nn S [E|P] [S|A|B] nn.n.nn-nn**

BRS30-[08|16|20] [04] [OO|2T] [OO|2T]-[S|C|T|E|G] [T|F] [C|D|E] n* n* 9 nn S [E|P] [S|A|B] nn.n.nn-nn**

BRS32-[08] [04] [OO|2T] [OO|2T]-[S|C|T|E|G] [U] [C|D|E] n* n* 9 nn S [E|P] [S|A|B] nn.n.nn-nn**

BRS40-[00] [08|12|16|20|24] [99|OO] [99|OO]-[S|C|T|E|G] [T|F] [C|D|E] n* n* 9 nn S [E|P] [S|A|B] nn.n.nn-nn**

BRS42-[00] [08|12] [99|OO] [99|OO]-[S|C|T|E|G] [U] [C|D|E] n* n* 9 nn S [E|P] [S|A|B] nn.n.nn-nn**

BRS50-[00] [12|20|24] [2Q] [2Q]-[S|C|T|E|G] [T|F] [C|D|E] n* n* 9 nn S [E|P] [S|A|B] nn.n.nn-nn**

BRS52-[00] [12] [2Q] [2Q]-[S|C|T|E|G] [U] [C|D|E] n* n* 9 nn S [E|P] [S|A|B] nn.n.nn-nn**

Optional assembled with optical transceivers: M-FAST SFP-x***, M-SFP-x***,
and optional assembled with Auto-Configuration Adapter: ACA22-USB-C (EEC).

(n = any number or letter, x = any suffix,
* = only variants with letter H or V at position 18 or 19 are specified according to IEC/EN 61850-3,
** = [S] and [C] for standard temperature range - heated and/or cooled enclosed locations,
*** = note temperature range.)

(Type, reference number)

has been designed and manufactured in accordance with the following standards

IEC/EN 61850-3:2014 – Communication networks and systems in substations

Test description	IEC 61850-3 Section	Test Reference	Requirement
Dry heat test operational	6.9.3.1	IEC 60068-2-2	+70 °C *5)* +60 °C *1) 5)*
Cold test operational	6.9.3.2	IEC 60068-2-1	-40 °C 0 °C *1)*
Dry heat test storage	6.9.3.3	IEC 60068-2-2	+70 °C *3)*
Cold test storage	6.9.3.4	IEC 60068-2-1	-40 °C
Change of temperature test, operational	6.9.3.5	IEC 60068-2-14	-40 °C / 70 °C *5)* 0 °C / 60 °C *1) 5)*
Damp heat cyclic test	6.9.3.7	IEC 60068-2-30	Test Db, 95 % (6 x 24h cycles)

Test description	IEC 61850-3 Section	Test Reference	Requirement
Vibration response and endurance (sinusoidal)	6.10.1	IEC 60255-21-1	Class 1 response: 10-59 Hz: 0,035 mm, 59-150 Hz: 0,5 g endurance: 59-150 Hz: 1,0 g
Shock response and shock withstand (half sine)	6.10.2	IEC 60255-21-2	Class 1 response: 5 g, 11 ms endurance: 15 g, 11 ms
Bumps shock withstand (half sine)	6.10.2	IEC 60255-21-2	Class 1 1000 shocks / axis,10 g, 16 ms
Seismic	6.10.3	IEC 60255-21-3	Class 1 1-8,5 Hz: 3,5 mm (x) / 1,5 mm (y) 8,5-35 Hz: 1 g (x) / 0,5 g (y)
IP protection class	6.11	IEC 60529	IP 30 (C: Plastic, D: Metal housing) IP 40 (E: Metal housing) *4)*
Rated voltage, operating range	5.2		*DC power ports:* Urated: 24 V (T, U) 24-48 V (F) -20 % to +10 %
Product safety requirements	6.6.1	Clearances and creepage	Tests according to EN 62368-1 passed
	6.6.2	IP rating	EN 62368-1 passed
	6.6.3	Impulse voltage	±5 kV
	6.6.4	Dielectric voltage test	0,7 kV d.c. Transient protection allows a max DC-0ffset ±(60 V-Urated)
	6.6.5	Protective bonding resistance	n/a
	6.6.6	Flammability	EN 62368-1 passed
	6.6.7	Single-fault condition	EN 62368-1 passed
Electrostatic discharge	6.7.3	Table 9.3 (Basic: IEC 61000-4-2)	Level 3, 6 kV contact / 8 kV air
Radiated electromagnetic field	6.7.3	Table 9.2 (Basic: IEC 61000-4-3)	Level 3, 10 V/m 80 – 3000 MHz
Fast transient / burst	6.7.3	Table 10.4, 11.5, 12.7 (Basic: IEC 61000-4-4)	*Power ports:* CM Level 4, ±4 kV *Signal ports (shielded)* CM Level 4, ±4 kV *Signal ports (unshielded)* CM Level 3, ±2 kV
Surges 1,2/50µs	6.7.3	Table 10.2, 11.3, 12.5 (Basic: IEC 61000-4-5)	Power ports: CM Level 3, ±2 kV DM Level 2, ±1 kV *Signal ports (shielded)* CM Level 4, ±4 kV *Signal ports (unshielded)* CM Level 2, ±1 kV

Test description	IEC 61850-3 Section	Test Reference	Requirement
Conducted disturbances by RF fields	6.7.3	Table 10.5, 11.6, 12.8, 13.2 (Basic: IEC 61000-4-6)	Level 3, 10 V 150 kHz – 80 MHz
Power Magnetic field	6.7.3	Table 9.1 (Basic: IEC 61000-4-8)	Level 5, *100A/m cont., 1000A 1s*
Damped oscillatory wave 1MHz	6.7.3	Table 10.3, 11.4, 12.6 (Basic: IEC 61000-4-18)	*Power ports:* CM Level 3, 2,5 kV DM Level 3, 1,0 kV *Signal ports:* CM Level 3, 2,5 kV
Main frequency voltage	6.7.3	Table 10.1, 12.4 (Basic: IEC 61000-4-16)	*Signal ports, DC power ports:* *Level 4,* *30 V cont., 300 V 1s*
Voltage dips	6.7.3	Table 12.1 (Basic: IEC 61000-4-29)	*DC Power Ports* ΔU 30% for 0,1 s ΔU 60% for 0,1 s **2)*
Voltage interruptions	6.7.3	Table 12.2 (Basic: IEC 61000-4-29)	*DC Power Ports* ΔU 100% for 0,05 s **2)*
Ripple on DC power supply	6.7.3	Table 12.3 (Basic: IEC 61000-4-17)	10 %
Radiated Emission	6.7.4	Table 16.1, 17.1 CISPR22	30…230 MHz: 40 dBµV/m (10m) 230…1000 MHz: 47 dBµV/m (10m) 1…3 GHz: 56 dB(µV/m) av. 76 dB(µV)/m pk. (3m) 3…6 GHz: 60 dB(µV/m) av. 80 dB(µV)/m pk. (3m)
Conducted Emission	6.7.4	Table 14.1, 15.1 CISPR22	*Power ports:* 150…500 kHz: 79 dBµV qp. 66 dBµV av. 500 kHz…30 MHz: 73 dBµV qp. 60 dBµV av. *Telecommunication ports:* 150…500 kHz: 97 to 87 dBµV qp. 84 to 74 dBµV av. 500 kHz…30 MHz: 87 dBµV qp. 74 dBµV av.

*1) Standard temperature range (S) and (C) – for heated and/or cooled enclosed locations
*2) For continuous operation according to 7.5.2c, a redundant power source or an UPS is recommended.
*3) For storage periods > 1 year, the instructions in the installation guide should be followed.
*4) Product variants with housing type E and DSC transceiver, comply with protection class IP30.
*5) Temperature derating, depending on the PoE output power, the equipped SFP transceivers and the installation location, is described in the installation guide.

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(Issue place and date)