

Technical specifications

General technical specifications

Type	BD01-...
Standards and specifications	IEC/EN 60439-1 and -2 (IEC/EN 61439-1 and -6 as from 2015)
Climatic proofing	Damp heat, constant, according to IEC 60068-2-78 Damp heat, cyclic, according to IEC 60068-2-30
Ambient temperature min./max./24h average	°C -5/+40/+35
Degree of protection acc. to IEC/EN 60529	
<ul style="list-style-type: none"> • Edgewise; tap-off points at the side • Flat, tap-off points at the bottom • Flat, tap-off points at the top 	IP54, increase to IP55 with optional equipment IP54, increase to IP55 with optional equipment IP50, increase to IP55 with optional equipment
Material	
<ul style="list-style-type: none"> • Trunking units • Busbars • Pick-up and connection contacts 	Galvanized, painted sheet steel Al or Cu Cu, silver-plated
Mounting position	Edgewise or flat
Weights	See "Selection and Ordering Data"

Overload and short-circuit protection

Busbar trunking systems must be protected against overload and short circuits. Fuses and miniature circuit breakers must be selected so that the admissible current carrying capacity

corresponding with the ambient conditions is not exceeded. For overload and short-circuit protection, we recommend the use of motor starter protectors or circuit breakers.

Tap-off units

Type	BD01-AK...
Version	3- or 5-pole
Rated current I_n	A 63
Switching capacity of the built-in switch-disconnector according to IEC/EN 60947-3 at 400 V	
<ul style="list-style-type: none"> • Utilization category 	AC-20B

Feeding and tap-off units, conductor cross-sections (geometric)

Version	Type	L1, L2, L3		N		PE	
		min. mm ²	max. mm ²	min. mm ²	max. mm ²	min. mm ²	max. mm ²
Feeding units	BD01-E	6 (so, st)	50 (st)	6 (so, st)	50 (st)	6 (so, st)	50 (st)
	BD01-160-E	25 (st)	95 (st)	25 (st)	95 (st)	16 (st)	50 (st)
Tap-off units	BD01-AK01X/ZS	0.75 (f, st)	10 (so, f, st)	0.75 (f, st)	10 (so, f, st)	0.75 (f, st)	10 (so, f, st)
	BD01-AK02X/ZS3	0.75 (f, st)	10 (so, f, st)	0.75 (f, st)	10 (so, f, st)	0.75 (f, st)	10 (so, f, st)
	BD01-AK02M0/A163	0.75 (so, st)	16 (so)	0.75 (f, st)	10 (so, f, st)	0.75 (f, st)	10 (so, f, st)
	BD01-AK02M0/A323	0.75 (so, st)	16 (so)	0.75 (f, st)	10 (so, f, st)	0.75 (f, st)	10 (so, f, st)
	BD01-AK1M1/A101	0.75 (so, st)	16 (so)	0.75 (so, f)	2.5 (so, f)	0.75 (so, f)	2.5 (so, f)
	BD01-AK1M1/A161	0.75 (so, st)	16 (so)	0.75 (so, f)	2.5 (so, f)	0.75 (so, f)	2.5 (so, f)
	BD01-AK1M1/A321	0.75 (so, st)	16 (so)	0.75 (so, f)	2.5 (so, f)	0.75 (so, f)	2.5 (so, f)
	BD01-AK1M1/A...	0.75 (so, st)	16 (so)	0.75 (f, st)	10 (so, f, st)	0.75 (so, st)	16 (so)
	BD01-AK1M1/A...N	0.75 (so, st)	16 (so)	0.75 (so, st)	16 (so)	0.75 (so, st)	16 (so)
	BD01-AK1X/S14	0.5 (f, st)	4 (so)	0.75 (f, st)	10 (so, f, st)	0.75 (so, st)	16 (so)
	BD01-AK1X/S18	0.5 (f, st)	16 (so, f, st)	0.75 (f, st)	10 (so, f, st)	0.75 (so, st)	16 (so)
	BD01-AK1X/GB...	0.75 (so, st)	16 (so)	0.75 (f, st)	10 (so, f, st)	0.75 (so, st)	16 (so)
	BD01-AK2X/F1451	0.75 (so, st)	16 (so)	0.75 (f, st)	10 (so, f, st)	0.75 (so, st)	16 (so)
	BD01-AK2X/S27	0.75 (f, st)	10 (so, f, st)	0.75 (f, st)	10 (so, f, st)	0.75 (so, st)	16 (so)
BD01-AK2HX/S33	1.5 (f, st)	16 (f, st)	0.75 (f, st)	16 (so, f, st)	0.75 (so, st)	16 (so, st)	

f = finely stranded with end sleeve, so = solid, st = stranded

BD01 System – 40 ... 160 A

General data

Trunking units

Type		BD01-40	BD01-63	BD01-100	BD01-125	BD01-160
Conducting paths						
Rated insulation voltage U_i	V AC/DC	400/400	400/400	400/400	400/400	400/400
Rated operational voltage U_e	V AC	400	400	400	400	400
Frequency	Hz	50 ... 60	50 ... 60	50 ... 60	50 ... 60	50 ... 60
Rated current I_n	A	40	63	100	125	160
Impedance of conducting paths at 50 Hz and 20 °C busbar temperature						
• Resistance R_{20}	mΩ/m	3.960	1.936	0.938	0.910	0.578
• Reactance X_{20}	mΩ/m	0.280	0.324	0.286	0.300	0.273
• Impedance Z_{20}	mΩ/m	3.970	1.968	0.994	1.000	0.642
Impedance of conducting paths in event of a fault						
• AC resistance R_F	mΩ/m	5.991	4.128	2.841	2.420	2.189
• Reactance per unit length X_F	mΩ/m	1.396	1.248	1.186	0.940	0.973
• Impedance per unit length Z_F	mΩ/m	6.151	4.312	3.078	2.600	2.395
Zero sequence impedance acc. to IEC/EN 60909 (VDE 0102)						
• Resistance R_0	Phase to N mΩ/m	15.904	7.911	4.115	3.810	3.167
• Reactance X_0	Phase to N mΩ/m	2.128	2.058	1.797	1.630	1.656
• Impedance Z_0	Phase to N mΩ/m	16.045	8.175	4.490	4.140	3.574
• Resistance R_0	Phase to PE mΩ/m	10.086	8.565	6.648	5.430	5.343
• Reactance X_0	Phase to PE mΩ/m	2.909	3.338	3.067	2.320	2.355
• Impedance Z_0	Phase to PE mΩ/m	10.498	9.183	7.322	5.910	5.839
Short-circuit rating						
Rated peak withstand current I_{pk}	kA	2.55	6.30	15.30	15.30	15.30
Rated short-time withstand current $I_{cw}(t = 1 \text{ s})$	kA	0.58	1.15	2.50	2.50	2.50
Rated short-time withstand current $I_{cw}(t = 0.1 \text{ s})$	kA	1.70	4.20	9.00	9.00	9.00
Conductors						
Number of active conductors		4	4	4	4	4
Conductor cross-section						
• L1, L2, L3	mm ²	7.9	15.7	34.1	34.1	34.1
• N	mm ²	7.9	15.7	34.1	34.1	34.1
• PE (enclosure) ≅ Cu	mm ²	20.0	20.0	20.0	20.0	20.0
Conductor material		Al	Al	Al	Al	Cu
Fire load						
	kWh/m	0.76	0.76	0.76	0.76	0.76
Max. thermal load, I^2t value	A ² s × 10 ⁶	0.29	1.76	8.10	8.10	8.10
Max. fixing intervals at normal mechanical load						
• Edgewise	m	3	3	3	3	3
• Flat	m	1.5	1.5	1.5	1.5	1.5
• Flat with BD01-BAP	m	3	3	3	3	3