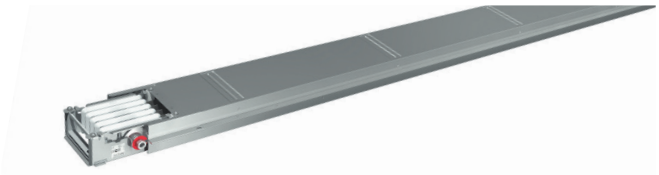
XCM 160 - 1000 A

straight length

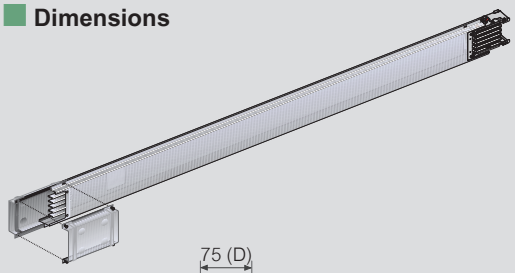


Reference standard: IEC 61439-6
Reference temperature: 40 °C
Protection degree: IP55
Thickness: 0.8 mm;
Dimension (LxH): 75-135x196mm;
N° of conductors: 4 with equal section 3P+N or 5 (3P+N+PE)
Conducting «flame retardant» in accordance with EN 60332-3
Separation between the conductors by plastic insulators reinforced with fibreglass, guarantees a degree of V0 self-extinguishing (according to UL94) and conform to the glow-wire test according to IEC 60695-2-10

Pack	Cat.Nos		Straight lengths without outlets	
	Al	Cu	In (A1	L (mm)
1	53400111	-	160	600÷1500
1	53400112	56400112	250	
1	53400113	56400113	315	
1	53400114	56400114	400	
1	53400118	-	500	
1	53400115	56400115	630	
1	53400116	56400116	800	
1	53400117	56400117	1000	
1	53400121	-	160	1501÷2999
1	53400122	56400122	250	
1	53400123	56400123	315	
1	53400124	56400124	400	
1	53400128	-	500	
1	53400125	56400125	630	
1	53400126	56400126	800	
1	53400127	56400127	1000	
1	53400241	-	160	3000
1	53400242	56400242	250	
1	53400243	56400243	315	
1	53400244	56400244	400	
1	53400248	-	500	
1	53400245	56400245	630	
1	53400246	56400246	800	
1	53400247	56400247	1000	

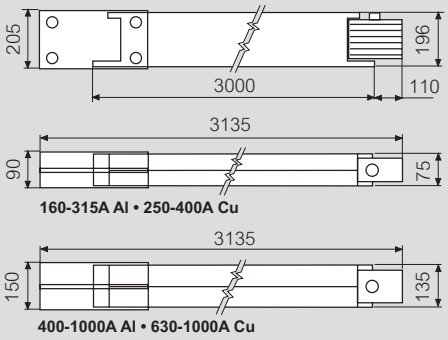
0 - 3P + N + PE casing
1 - 3P + N + PE*
2 - 3P + N + PE casing (painted version)
3 - 3P + N + PE (painted version)*
* Item code**-E5** = 3P + N + FE + PE casing

Dimensions

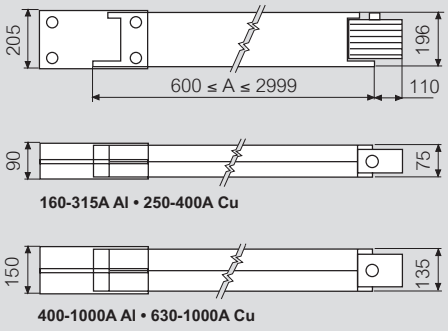


* for 3P+N+PE and 3P+N+FE+PE casing

For straight lengths = 3000 mm



For straight lengths at measurement from 600 mm to 2999 mm



In your Purchase Order please specify the required length
(see page: How to take measurements)

Al	Weight (kg)	Cu	Weight (kg)	In (A)
53400111	13.6	-	-	160
53400112	14.1	56400112	16.5	250
53400113	14.9	56400113	17.7	315
53400114	23.3	56400114	22.0	400
53400118	25.2	-	-	500
53400115	26.9	56400115	34.3	630
53400116	28.0	56400116	42.2	800
53400117	30.1	56400117	47.8	1000
53400121	13.6	-	-	160
53400122	14.1	56400122	16.5	250
53400123	14.9	56400123	17.7	315
53400124	23.3	56400124	22.0	400
53400128	25.2	-	-	500
53400125	26.9	56400125	34.3	630
53400126	28.0	56400126	42.2	800
53400127	30.1	56400127	47.8	1000
53400241	19.9	-	-	160
53400242	20.9	56400242	25.7	250
53400243	22.8	56400243	28.1	315
53400244	33.8	56400244	36.9	400
53400248	37.5	-	-	500
53400245	41.7	56400245	56.0	630
53400246	44.3	56400246	72.1	800
53400247	46.8	56400247	83.7	1000

In the case of **transport of electric energy** is recommended to use XCP busbar duct

XCM 160 - 1000 A

technical informations

		XCM - Al - 4 Conductors (3P+N+PE)								XCM - Cu - 4 Conductors (3P+N+PE)					
Rated current	In [A]	**160**	**250**	**315**	**400**	**500**	**630**	**800**	**1000**	**250**	**315**	**400**	**630**	**800**	**1000**
Overall dimension of the busbars	LxH [mm]	75x196			135x196					75x196			135x196		
Rated operational voltage	Ue (V)	1000							690	1000					
Rated insulation voltage	Ui (V)	1000							690	1000					
Frequency	f (Hz)	50													
Rated short-time current (1 s)	Icw [kA]rms	15*	25*	25*	25	30	36	36	36	25 *	25 *	30 *	36	36	36
Peak current	Ipk [kA]	30	53	53	53	63	76	76	76	53	53	63	76	76	76
Allowable specific energy for three-phase fault	I^2t [M A^2s]	23	63	63	625	900	1296	1296	1296	63	63	90	1296	1296	1296
Rated short-time current of the neutral bar (1 s)	Icw [kA]rms	15 *	25 *	25 *	25	30	36	36	36	25 *	25 *	30 *	36	36	36
Peak current of the neutral bar	Ipk [kA]	28	49	49	49	59	70	70	70	53	53	63	76	76	76
Rated short-time current of the protective circuit (1 s)	Icw [kA]rms	15 *	15 *	15 *	13	13	13	13	13	15 *	15 *	15 *	13	13	13
Peak current of the protective circuit	Ipk [kA]	30	30	30	26	26	26	26	26	30	30	30	26	26	26
Phase resistance at 20 °C	R_{20} [mΩ/m]	0.493	0.331	0.202	0.120	0.077	0.060	0.052	0.037	0.239	0.182	0.099	0.061	0.040	0.032
Phase reactance at 50 Hz	X [mΩ/m]	0.150	0.150	0.150	0.140	0.070	0.070	0.070	0.060	0.158	0.138	0.119	0.064	0.064	0.056
Phase impedance	Z [mΩ/m]	0.515	0.363	0.252	0.184	0.104	0.092	0.087	0.070	0.287	0.228	0.155	0.088	0.075	0.064
Phase resistance at thermal conditions	R [mΩ/m]	0.651	0.485	0.285	0.152	0.098	0.080	0.074	0.053	0.320	0.254	0.133	0.082	0.054	0.046
Phase impedance at thermal conditions	Z [mΩ/m]	0.668	0.507	0.322	0.207	0.120	0.106	0.102	0.080	0.357	0.289	0.179	0.104	0.084	0.073
Neutral resistance	R_{20} [mΩ/m]	0.493	0.331	0.202	0.120	0.077	0.060	0.052	0.037	0.239	0.182	0.099	0.061	0.040	0.032
Resistance of the protective bar	R_{PE} [mΩ/m]	0.310	0.310	0.310	0.257	0.257	0.257	0.257	0.257	0.310	0.310	0.310	0.257	0.257	0.257
Reactance of the protective bar at 50 Hz	X_{PE} [μΩ/μ]	0.220	0.220	0.220	0.180	0.180	0.180	0.180	0.180	0.220	0.220	0.220	0.180	0.180	0.180
Resistance of the fault loop	R_o [μΩ/μ]	0.803	0.641	0.512	0.377	0.334	0.317	0.309	0.294	0.549	0.492	0.409	0.318	0.297	0.289
Reactance of the fault loop	X_o [μΩ/μ]	0.370	0.370	0.370	0.320	0.250	0.250	0.250	0.240	0.378	0.358	0.339	0.244	0.244	0.236
Impedance of the fault loop	Z_o [μΩ/μ]	0.884	0.740	0.632	0.494	0.417	0.404	0.397	0.380	0.667	0.608	0.531	0.401	0.384	0.373
Zero-sequence short-circuit average resistance phase - N	R_o [μΩ/μ]	0.657	0.441	0.269	0.160	0.103	0.080	0.069	0.049	0.319	0.243	0.132	0.081	0.053	0.043
Zero-sequence short-circuit average reactance phase - N	X_o [μΩ/μ]	0.200	0.200	0.200	0.187	0.093	0.093	0.093	0.080	0.211	0.184	0.159	0.085	0.085	0.075
Zero-sequence short-circuit average impedance phase - N	Z_o [μΩ/μ]	0.687	0.485	0.335	0.246	0.139	0.123	0.116	0.094	0.382	0.305	0.206	0.118	0.101	0.086
Zero-sequence short-circuit average resistance phase - PE	R_o [μΩ/μ]	0.474	0.420	0.377	0.297	0.283	0.277	0.274	0.269	0.390	0.371	0.343	0.277	0.270	0.268
Zero-sequence short-circuit average reactance phase - PE	X_o [μΩ/μ]	0.270	0.270	0.270	0.227	0.203	0.203	0.203	0.200	0.273	0.266	0.260	0.201	0.201	0.199
Zero-sequence short-circuit average impedance phase - PE	Z_o [μΩ/μ]	0.546	0.500	0.464	0.374	0.348	0.344	0.341	0.335	0.476	0.457	0.430	0.342	0.337	0.334
Voltage drop with distributed load Δv [V/m*A]10^{-6}	cosφ = 0.7	0.429	0.326	0.233	0.167	0.095	0.084	0.080	0.063	0.331	0.226	0.154	0.081	0.076	0.061
	cosφ = 0.75	0.446	0.336	0.237	0.167	0.096	0.084	0.079	0.062	0.340	0.230	0.155	0.081	0.076	0.060
	cosφ = 0.8	0.462	0.344	0.239	0.165	0.096	0.083	0.078	0.061	0.348	0.232	0.154	0.080	0.075	0.059
	cosφ = 0.85	0.477	0.351	0.239	0.162	0.095	0.082	0.076	0.059	0.355	0.234	0.153	0.079	0.073	0.057
	cosφ = 0.9	0.489	0.356	0.237	0.157	0.093	0.079	0.073	0.056	0.359	0.233	0.149	0.077	0.071	0.054
	cosφ = 0.95	0.497	0.357	0.231	0.148	0.089	0.075	0.068	0.051	0.359	0.228	0.142	0.073	0.067	0.050
	cosφ = 1	0.480	0.333	0.201	0.116	0.074	0.059	0.052	0.037	0.333	0.201	0.116	0.059	0.052	0.037
Weight	[kg/m]	7.1	7.6	8.3	11.0	12.7	14.0	15.0	17.0	9.5	10.4	14.3	19.8	25.4	29.5
Degree of protection	IP	55	55	55	55	55	55	55	55	55	55	55	55	55	55
Losses for the Joule effect at nominal current	P [W/m]	43	72	69	64	64	81	115	128	51	62	54	82	87	111
Ambient temperature min/ MAX (daily average)**	[°C]	-5/70 **	-5/70 **	-5/70 **	-5/70 **	-5/70 **	-5/70 **	-5/70 **	-5/70 **	-5/70 **	-5/70 **	-5/70 **	-5/70 **	-5/70 **	-5/70 **

* Values referred to 0.1 s

Temperature rating schedule according to the room temperature

Ambient temperature (°C)	-5	0	10	15	20	25	30	35	40	45	50	55	60	65	70
Factor Kt	1,28	1,25	1,19	1,16	1,13	1,10	1,07	1,03	**1**	0,97	0,93	0,89	0,86	0,82	0,78

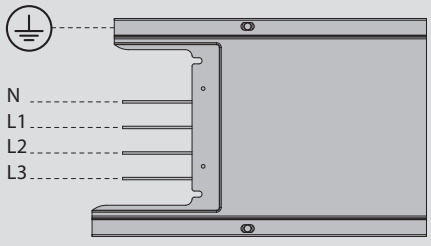
**For temperatures over 40°C it will be necessary to derate the busbar and for ambient temperatures under -5°C contact the technical support.

The data on this page refer to the 50 Hz frequency. For 60 Hz, please contact Legrand.

(**) **THREE-PHASE:** $\Delta V3f = \sqrt{3}/2 \times (R_t \cos\varphi + X \operatorname{sen}\varphi)$
$\Delta V3f(In) = I \times L \times \Delta V3f$: (knowing the current and length of the line)
$\Delta V3f(In)\% = (\Delta V3f(In) / Ue) \times 100$ (%)

To calculate the **ΔV1f (SINGLE-PHASE) on distributed load:**
$\Delta V1f = 1/2 \times (2R_t \cos\varphi + 2X \operatorname{sen}\varphi)$
$\Delta V1f(In) = I \times L \times \Delta V1f$: (knowing the current and length of the line)
$\Delta V1f(In)\% = (\Delta V1f(In) / Ue) \times 100$ (%)

I = operating current (A)
L = length (m)



XCM 4 conductors