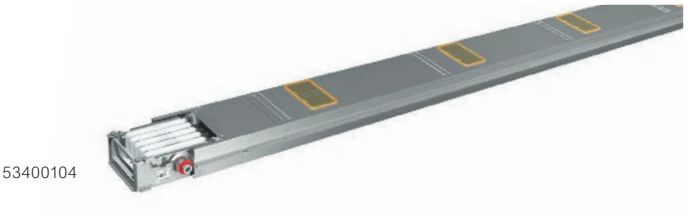
XCM 160 - 1000 A

straight lengths (continued)



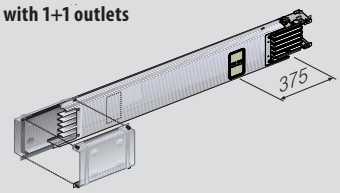
53400104

Pack	Cat.Nos		Straight lengths with outlets		
	Al	Cu	In (A)	L (mm)	N° windows
1	53400141	-	160	1000÷1500	1+1
1	53400142	56400142	250		
1	53400143	56400143	315		
1	53400144	56400144	400		
1	53400148	-	500		
1	53400145	56400145	630		
1	53400146	56400146	800		
1	53400147	56400147	1000		
1	53400151	-	160	1501÷2999	2+2
1	53400152	56400152	250		
1	53400153	56400153	315		
1	53400154	56400154	400		
1	53400158	-	500		
1	53400155	56400155	630		
1	53400156	56400156	800		
1	53400157	56400157	1000		
1	53400101	-	160	3000	3+3
1	53400102	56400102	250		
1	53400103	56400103	315		
1	53400104	56400104	400		
1	53400108	-	500		
1	53400105	56400105	630		
1	53400106	56400106	800		
1	53400107	56400107	1000		
1	53400251	-	160	3000	5
1	53400252	56400252	250		
1	53400253	56400253	315		
1	53400254	56400254	400		
1	53400258	-	500		
1	53400255	56400255	630		
1	53400256	56400256	800		
1	53400257	56400257	1000		

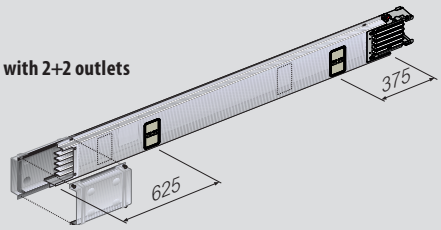
0 - 3P + N + PE casing
1 - 3P + N + PE*
2 - 3P + N + PE casing (painted version)
3 - 3P + N + PE (painted version)*
* Item code**-E5** = 3P + N + FE + PE casing

Dimensions

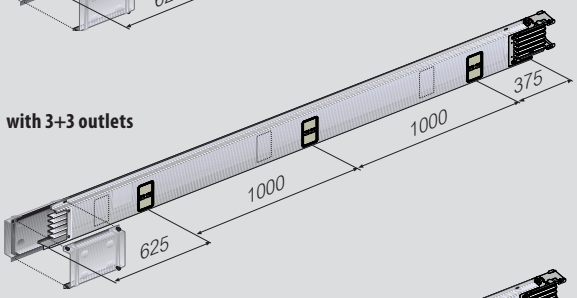
with 1+1 outlets



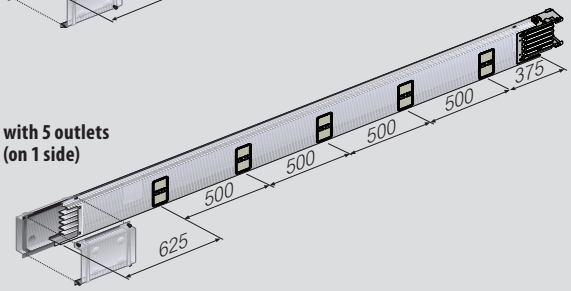
with 2+2 outlets



with 3+3 outlets



with 5 outlets (on 1 side)



1+1 outlets				2+2 outlets			
Al	Weight (kg)	Cu	Weight (kg)	Al	Weight (kg)	Cu	Weight (kg)
53400141	13.6	-	-	53400151	13.6	-	-
53400142	14.1	56400142	16.5	53400152	14.1	56400152	16.5
53400143	14.9	56400143	17.7	53400153	14.9	56400153	17.7
53400144	23.3	56400144	22.0	53400154	23.3	56400154	22.0
53400148	25.2	-	-	53400158	25.2	-	-
53400145	26.9	56400145	34.3	53400155	26.9	56400155	34.3
53400146	28.0	56400146	42.2	53400156	28.0	56400156	42.2
53400147	30.1	56400147	47.8	53400157	30.1	56400157	47.8

3+3 outlets				5 outlets on 1 side			
Al	Weight (kg)	Cu	Weight (kg)	Al	Weight (kg)	Cu	Weight (kg)
53400101	19.9	-	-	53400251	19.9	-	-
53400102	20.9	56400102	25.7	53400252	20.9	56400252	25.7
53400103	22.8	56400103	28.1	53400253	22.8	56400253	28.1
53400104	33.8	56400104	36.9	53400254	33.8	56400254	36.9
53400108	37.5	-	-	53400258	37.5	-	-
53400105	41.7	56400105	56.0	53400255	41.7	56400255	56.0
53400106	44.3	56400106	72.1	53400256	44.3	56400256	72.1
53400107	46.8	56400107	83.7	53400257	46.8	56400257	83.7

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

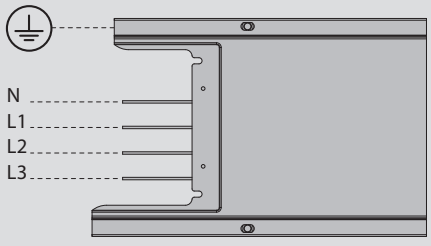
**For temperatures over 40°C it will be necessary to derate the busbar and for ambient temperatures under -5°C contact the technical support.

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