TABLE BEC 113 Current Ratings for Power & Control cables 600/1000V BS6883, IEC60331 and IEC60332

Nominal area of conductor	Single Core	Volt drop mV/A/M			Two Core	Volt drop mV/A/M		Three and Four Core	
mm²	Current rating dc or single phase ac or three phase ac amp	dc mV	Single phase ac mV	Three phase ac mV	Current rating dc or single phase ac	dc mV	Single phase ac mV	Current rating three phase ac	Volt drop per amp per metre mV
1.0	17	53	53	46	14	54	54	12	47
1.5	21	34	34	29	18	35	35	15	30
2.5	30	18	18	16	25	18	18	21	16
4	40	12	12	10	34	12	12	29	10
6	51	7.6	7.6	6.6	43	7.8	7.8	36	6.7
10	71	4.5	4.5	3.9	60	4.6	4.6	50	4.0
16	95	2.7	2.7	2.3	81	2.7	2.7	67	2.3
25	125	1.7	1.7	1.5	105	1.7	1.7	89	1.5
35	155	1.2	1.2	1.1	135	1.2	1.2	105	1.1
50	190	0.96	0.98	0.87	165	0.98	1.0	135	0.89
70	240	0.67	0.69	0.63	200	0.68	0.70	170	0.64
95	290	0.48	0.52	0.49	250	0.49	0.53	205	0.50
120	340	0.38	0.42	0.43	290	0.39	0.43	240	0.44
150	385	0.31	0.36	0.38	330	0.31	0.39	270	0.38
185	440	0.25	0.42	0.34	370	0.25	0.32	305	0.34
240	520	0.19	0.27	0.31	445	0.19	0.27	365	0.31
300	590	0.15	0.24	0.29	505	0.15	0.24	415	0.29

The maximum sustained current ratings show above for cables run open or enclosed are based on an ambient air temperature of 45°C and a maximum conductor operating temperature of 90°C. They apply where up to 6 cables are bunched together are are subject to a correction factor of 0.85 where more than six cables are so bunched. The ratings do not provide for every condition under which the cables may possibly be used.
For correction factors based on ambient temperatures other than 45°C, refer to following table.

Temperature rating factors:

Ambient temperature °C	20	25	30	35	40	45	50	55	60	65	70	75	80
Rating factor	1.25	1.20	1.15	1.11	1.05	1.00	0.94	0.88	0.82	0.75	0.67	0.58	0.47

Voltage Drop

The above ac voltage drop values are quoted on a ‘per metre run’ (ie: they ‘go’ and ‘return’ in both single and multi-core cables) basis at a frequency of 60Hz. If, for those conductor sizes where reactance become significant it is required to calculate the voltage drop values at 50Hz, the following formulae apply:

$$\text{Single Phase } V_{50}^2 = 0.694V_{60}^2 + 0.306V_0^2$$

$$\text{Three Phase } V_{50}^2 = 0.694V_{50}^2 + 0.299V_0^2$$

In which V1 = dc volt drop per ampere per metre.
V_{50} = 50Hz volt drop per ampere per metre.
V_{60} = 60Hz volt drop per ampere per metre.

battindustrial.sales@batt.co.uk

SOUTH EAST
Erith (Head Office)
Tel: 01322 441165
Fax: 01322 440492

SOUTH WEST
Bristol
Tel: 0117 966 6333
Fax: 0117 953 3602

WALES
Cardiff
Tel: 02920 450044
Fax: 02920 464724

MIDLANDS
Birmingham
Tel: 0121 313 2870
Fax: 0121 313 3415

EASTERN
Peterborough
Tel: 01733 558485
Fax: 01733 562015

NORTH
Leeds
Tel: 0113 2533565
Fax: 0113 253 6373

NORTH WEST
Manchester
Tel: 01204 793111
Fax: 01204 797977