

## PROTOMONT Type 201, Type 211 (640/1100V): Flexible Trailing Cables With Galvanized Steel Pliable Wire Armouring



### Application

The cables are suitable for fixed installation in underground mines for use as mine roadway extension cables and for coalface lighting.

### Global data

Brand	PROTOMONT
Type	Type 211, Type 201
Standard	British Standard 6708

### Design features

Conductor	Finely-stranded copper conductor, tinned, (class 5) acc. BS 6360
Insulation	PROTOLON, Basic material: EPR, colored according to BS 7655
Core identification	Power cores: Colored, Color code: Red, Yellow, Brown, Blue; Protective Earth conductor: Green/Yellow;
Core arrangement	Three power cores and the protective earth conductor layed up
Arrangement of PE-conductor	Layed up together with the power cores around a center filler
Inner sheath	Basic material: CR, Color: Black up to 1,1kV, Red > 1,1kV
Screen	Phase core screen: Composite copper/nylon braid
Reinforcement	Pliable armour of galvanized steel wires
Outer sheath	PROTOFIRM, Basic material: CR, Color: Black up to 1,1kV, Red > 1,1kV

### Electrical parameters

Rated voltage	640/1100 V
Maximum permissible operating voltage AC	0.7/1.2 kV
Maximum permissible operating voltage DC	0.9/1.8 kV
AC test voltage	11 kV
AC test voltage	6 kV
AC test voltage	3 kV

### Chemical parameters

Resistance to fire	IEC 60332-1-2
Resistance to oil	Given in accordance with EN 60811-404
Weather resistance	Unrestricted use outdoors and indoors, resistant to ozone and moisture

### Thermal parameters

Max. permissible temperature at conductor	90 °C
Max. short circuit temperature of the conductor	250 °C
Ambient temperature for fix installation min.	-40 °C
Ambient temperature for fix installation max.	80 °C
Ambient temp. in fully flex. operation min.	-25 °C
Ambient temp. in fully flex. operation max.	60 °C

### Mechanical parameters

Max. tensile load of cable	15 N/mm <sup>2</sup>
Bending radii min.	Acc. to DIN VDE 0298 part 3

Number of cores x cross section	Conductor diameter max. mm	Outer diameter min. mm	Outer diameter max. mm	Net weight approx. kg/km	Permissible tensile force max. N	Conductor resistance at 20°C max. Ω/km	Nom. operating capacitance µF/km	Inductance nom. mH/km	Current carrying capacity (1) A	Short Circuit Current (conductor) kA
Type 201										
3 x 10	4	37.3	39.8	2900	450	1.95	0.48	0.39	74	1.43
3 x 16	5.2	40.6	43.4	3400	720	1.24	0.51	0.35	99	2.29
3 x 25	6.4	44.6	47.4	4100	1125	0.795	0.53	0.34	131	3.58
3 x 35	8	48.3	51.1	4800	1575	0.565	0.58	0.33	162	5.01
3 x 50	9.5	53.6	57.4	5900	2250	0.393	0.62	0.32	202	7.15
3 x 70	11.3	60.7	64.5	7700	3150	0.277	0.71	0.31	250	10.01
3 x 95	12.7	71.8	75.8	10900	4275	0.21	0.76	0.31	301	13.59
3 x 120	14.7	76.7	81	12500	5400	0.164	0.85	0.3	352	17.16
Type 211										
3 x 10 + 1 x 10	4.2	37.3	39.8	2500	450	1.95	0.48	0.39	74	1.43
3 x 16 + 1 x 16	5.2	40.6	43.4	3100	720	1.24	0.51	0.35	99	2.29
3 x 25 + 1 x 16	6.4	44.6	47.4	4000	1125	0.795	0.53	0.34	131	3.58
3 x 35 + 1 x 25	8	52.7	56.5	5600	1575	0.565	0.58	0.33	162	5.01
3 x 50 + 1 x 35	9.5	59.7	63.5	7300	2250	0.393	0.62	0.32	202	7.15
3 x 70 + 1 x 50	11.3	68.8	72.8	9500	3150	0.277	0.71	0.31	250	10.01
3 x 95 + 1 x 70	12.7	80.6	84.9	13300	4275	0.21	0.76	0.31	301	13.59
3 x 120 + 1 x 70	14.7	86.2	90.5	15200	5400	0.21	0.85	0.3	352	17.16