



Images not to scale. Follow table for dimensions

APPLICATION

POLYCAT MV 12.7/22 KV XLPE insulated with Aluminium conductor Triplex cable is suitable to use for power supply to wide networks i.e. Commercial, Industrial and Urban / Residential.

CHARACTERISTICS

Voltage Rating

Nominal Voltage: 12.7/22 (24) kV

Operation Temperature

Min. installation temperature: 0°C

Operating temperature: -25°C to +90°C

Emergency operating temperature: 105°C

(max. operation of 36hrs, at 3 periods for 12 consecutive months use)

Max. Short Circuit Temperature: 250°C

Bending Radius:

Fixed Installation: 12D (PVC) / 15D (HDPE)

During Installation: 18D (PVC) / 25D (HDPE)

D is overall diameter of each cable

CONSTRUCTION

- Conductor: Stranded Compacted Circular aluminium conductor as per AS/NZS 1125
- Conductor Screen: Extruded Semi-conductive compound
- Insulation: XLPE
- Insulation Screen: Extruded Strippable Semi-conductive compound
- Longitudinal Water blocking : Water blocking tape above and below copper screen (Optional)
- Metallic Insulation Screen: Copper Wire Screen + helically applied copper tape (E/F current capacity – Based on requirement)
- Outer Sheath: Extruded Polyvinyl Chloride, Colour: Black
- Termite Protection: Polyamide (Nylon -12) (optional)
- (Alternative Sheath: PVC+HDPE Composite Sheath or LSZH Outer sheath, and parameters will change accordingly)

Three Single Core Cables twisted and assembled to form triplex formation

OUTSTANDING FEATURES

- Long life
- UV resistant
- Resistant to chemical exposure
- Resistant to water (AD7/AD8 with HDPE)
- Resistant to weather exposure

STANDARD FOLLOWS

AS/NZS 1429.1

AS/NZS 1125

AS/NZS 3008

COMPLIANCE

- Conductor resistance AS/NZS 1125
- Insulation resistance AS/NZS 1429.1
- Voltage test AS/NZS 1429.1

OUR ACCREDITATIONS



APPROVAL



NOTES

High Voltage Test (kV AC)	Partial discharge test (kV AC)		Impulse test Voltage (kV peak)
	200% to rated voltage	150% to rated voltage	
42	25	19	150

MV Cable AL Conductor, XLPE Insulation, Cu Screen - Triplex

DIMENSIONAL CHARACTERISTICS:

Product Code	No. of Single Cores	Core Cross sectional Area	Nominal Diameter		
			Over Screen	Each Phase	Overall
	No.	mm ²	mm	mm	mm
MVNZ12AXUAPH001T035SAXXXX	3	35	23.0	27.0	58.0
MVNZ12AXUAPH001T050SAXXXX	3	50	24.1	28.0	60.0
MVNZ12AXUAPH001T070SAXXXX	3	70	25.7	30.0	64.0
MVNZ12AXUAPH001T095SAXXXX	3	95	27.3	31.0	67.0
MVNZ12AXUAPH001T120SAXXXX	3	120	28.9	33.0	71.0
MVNZ12AXUAPH001T150SAXXXX	3	150	30.2	35.0	74.0
MVNZ12AXUAPH001T185SAXXXX	3	185	31.9	36.0	78.0
MVNZ12AXUAPH001T240SAXXXX	3	240	34.2	39.0	83.0
MVNZ12AXUAPH001T300SAXXXX	3	300	36.4	41.0	88.0
MVNZ12AXUAPH001T400SAXXXX	3	400	39.1	44.0	94.0
MVNZ12AXUAPH001T500SAXXXX	3	500	42.5	48.0	102.0

• Above mentioned parameters are based on 3kA/sec earth fault current capacity of copper screen

ELECTRICAL CHARACTERISTICS:

No. of Cores	Core Cross sectional Area	Max. DC Resistance at 20°C	Max. AC Resistance at 90°C	Approx. Capacitance	Approx. Inductance	Approx. Reactance	Continuous Current Rating @ ambient 45°C		
							Buried direct in ground	In a buried duct	In Air
No.	mm ²	Ω/km	Ω/km	μF/km	mH/km	Ω/km	Amps	Amps	Amps
3 x 1	35	0.868	1.113	0.16	0.472	0.148	119	103	132
3 x 1	50	0.641	0.822	0.17	0.450	0.142	140	122	158
3 x 1	70	0.443	0.568	0.2	0.418	0.131	171	150	196
3 x 1	95	0.32	0.411	0.22	0.397	0.125	203	179	236
3 x 1	120	0.253	0.325	0.24	0.379	0.119	232	205	273
3 x 1	150	0.206	0.265	0.25	0.368	0.116	260	231	309

MV Cable AL Conductor, XLPE Insulation, Cu Screen - Triplex

No. of Cores	Core Cross sectional Area	Max. DC Resistance at 20°C	Max. AC Resistance at 90°C	Approx. Capacitance	Approx. Inductance	Approx. Reactance	Continuous Current Rating @ ambient 45°C		
							Buried direct in ground	In a buried duct	In Air
No.	mm ²	Ω/km	Ω/km	μF/km	mH/km	Ω/km	Amps		
3 x 1	185	0.164	0.211	0.28	0.356	0.112	294	262	355
3 x 1	240	0.125	0.161	0.31	0.341	0.107	340	305	415
3 x 1	300	0.1	0.130	0.33	0.329	0.103	384	346	475
3 x 1	400	0.0778	0.102	0.37	0.318	0.100	438	398	552
3 x 1	500	0.0605	0.080	0.41	0.306	0.096	505	460	646

*: Current Ratings are based on IEC 60502-2 & IEC 60287, Max. Conductor Temperature at 90°C, Ambient temperature at 30°C in Air / at 20°C in Ground, Thermal resistivity of Soil 1.5 k.m/W & for earthenware ducts 1.2k.m/W and Depth of Laying 0.8m.

Current rating de-rating factors for other than 30°C ambient air temperature.

20	25	35	40	45	50	55	60
1.08	1.04	0.96	0.91	0.87	0.82	0.76	0.71

Current rating de-rating factors for other than 20°C ground temperature.

10	15	25	30	35	40	45	50
1.07	1.04	0.96	0.93	0.89	0.85	0.80	0.76

MV Cable AL Conductor, XLPE Insulation, Cu Screen - Triplex

No. of Cores	Core Cross sectional Area	Max. pulling tension on conductor	Charging Current per phase	Zero sequence impedance	Electric Stress at Conductor Screen	Short circuit rating of phase conductor
No.	mm ²	kN	Amps/Km	Ohms/Km	kV/mm	kA, 1 sec
3 x 1	35	1.8	0.64	2.3	3.7	3.3
3 x 1	50	2.5	0.68	2.0	3.5	4.7
3 x 1	70	3.5	0.8	1.7	3.4	6.6
3 x 1	95	4.8	0.88	1.6	3.2	9.0
3 x 1	120	6.0	0.96	1.5	3.1	11.3
3 x 1	150	7.5	1	1.4	3.1	14.2
3 x 1	185	9.3	1.12	1.4	3.0	17.4
3 x 1	240	12.0	1.24	1.3	2.9	22.6
3 x 1	300	15.0	1.32	1.3	2.9	28.3
3 x 1	400	20.0	1.48	1.3	2.8	37.6
3 x 1	500	25.0	1.64	1.2	2.7	47.2