







INSTRUMENTATION CABLE

Document ID: TE/QMS/F/02 CABLE CODE: ICIS04CYSWYL004P1.5SA002S

Name of Manufacturer Type of Cable Overall Screened No of Elements X Size in mm² 4P X L5 Voltage Grade (V) 300/500 Conductor a) Material b) Maximum D.C. resistance of conductor at 20° C (Ω/km) c) Shape of conductor Insulation Namerial b) Minimum Thickness mm c) Material c) Pair/Triad identification Collective Screen a) Material b) Marinal Hickness mm c) Material b) Nominal Thickness mm c) Material b) Nominal Thickness mm c) Material c) Pair/Triad identification Collective Screen a) Material b) Nominal Thickness mm c) Material c) Size of Drain Wire d) Size of Drain Wire (Approx.) Inner sheath a) Material b) Minimum Thickness mm c) Aluminium mylar tape d) Size of Drain Wire a) Material b) Minimum Thickness mm c) Amouring a) Material c) Material c) Material d) Mate	Particulars	4 Pair X 1.5 sqmm
No of Elements X Size in mm² Voltage Grade (V) 300/500 Conductor a) Material Plain Stranded Copper (Class-2) as per IS: 8130/2013 b) Maximum D.C. resistance of conductor at 20° C (Ω/km) c) Shape of conductor Stranded Circular Insulation 3) Material PVC Type A as per IS:5831 b) Minimum Thickness mm c) Pair/Triad identification White & Blue with numbered Polyester tape (OR) White & Blue with number printing on core Collective Screen a) Material Aluminium mylar tape b) Nominal Thickness mm c) Material of Drain Wire Flexible ATC d) Size of Drain Wire (Approx.) Inner sheath a) Material Extruded PVC Type ST1 to IS: 5831 b) Minimum Thickness mm 0.3 Armouring a) Material Galvanised Steel b) Type of armouring Round Wire c) Nominal size of armour (mm) d) Tolerance on armour dimensions Duter sheath a) Material Extruded FR-LSH PVC Type ST1 to IS: 5831 b) Thickness mm 1.24 (Min.) c) colour of sheath Blue FR-LSH PROPERTIES a) Oxygen Index Min. 25% as per ASTM D- 2863 Min. 25% Deg.C as per ASTM D- 2863	Name of Manufacturer	POLYCAB INDIA LTD
Voltage Grade (V) Conductor a) Material Plain Stranded Copper (Class-2) as per IS: 8130/2013 b) Maximum D.C. resistance of conductor at 20° C (Ω/km) 12.3 c) Shape of conductor Stranded Circular Insulation a) Material PVC Type A as per IS:5831 b) Minimum Thickness mm 0.44 c) Pair/Triad identification White & Blue with numbered Polyester tape (OR) White & Blue with number printing on core Collective Screen a) Material Aluminium mylar tape b) Nominal Thickness mm 0.018 c) Material of Drain Wire Flexible ATC d) Size of Drain Wire (Approx.) 0.5 mm² (16/0.2 mm) Inner sheath a) Material b) Minimum Thickness mm 0.3 Armouring a) Material Galvanised Steel b) Type of armouring Round Wire c) Nominal size of armour (mm) 0.9 d) Tolerance on armour dimensions ± 0.030 mm Outer sheath a) Material Extruded FR-LSH PVC Type ST1 to IS: 5831 b) Thickness mm 1.24 (Min.) c) colour of sheath Blue FR-LSH PROPERTIES a) Oxygen Index b) Temperature Index Min. 250 Deg.C as per ASTM D- 2863 Min. 250 Deg.C as per ASTM D- 2863	Type of Cable	Overall Screened
Conductor	No of Elements X Size in mm ²	4P X 1.5
a) Material Plain Stranded Copper (Class-2) as per IS: 8130/2013 b) Maximum D.C. resistance of conductor at 20° C (Q/km) 12.3 c) Shape of conductor Stranded Circular Insulation a) Material PVC Type A as per IS: 5831 b) Minimum Thickness mm 0.44 c) Pair/Triad identification White & Blue with numbered Polyester tape (OR) White & Blue with number printing on core Collective Screen a) Material Aluminium mylar tape b) Nominal Thickness mm 0.018 c) Material Flexible ATC d) Size of Drain Wire (Approx.) 0.5 mm² (16/0.2 mm) Inner sheath a) Material Extruded PVC Type ST1 to IS: 5831 b) Minimum Thickness mm 0.3 Armouring a) Material Galvanised Steel b) Type of armouring Round Wire c) Nominal size of armour (mm) 0.9 d) Tolerance on armour dimensions ± 0.03 mm Outer sheath a) Material Extruded FR-LSH PVC Type ST1 to IS: 5831 b) Thickness mm 1.24 (Min.) c) colour of sheath Blue FR-LSH PROPERTIES a) Oxygen Index Min. 29% as per ASTM D- 2863 b) Temperature Index Min. 250 Deg.C as per ASTM D- 2863	Voltage Grade (V)	300/500
b) Maximum D.C. resistance of conductor at 20° C (\Omega / km) 12.3 c) Shape of conductor Stranded Circular Insulation a) Material PVC Type A as per IS:5831 b) Minimum Thickness mm 0.44 c) Pair/Triad identification White & Blue with numbered Polyester tape (OR) White & Blue with number printing on core Collective Screen a) Material Aluminium mylar tape b) Nominal Thickness mm 0.018 c) Material of Drain Wire Flexible ATC d) Size of Drain Wire (Approx.) 0.5 mm² (16/0.2 mm) Inner sheath a) Material b) Minimum Thickness mm 0.3 Armouring a) Material Galvanised Steel b) Type of armouring Round Wire c) Nominal size of armour (mm) 0.9 d) Tolerance on armour dimensions ± 0.030 mm Outer sheath a) Material Extruded FR-LSH PVC Type ST1 to IS: 5831 b) Thickness mm 1.24 (Min.) c) colour of sheath Blue FR-LSH PROPERTIES a) Oxygen Index Min. 250 Deg.C as per ASTM D- 2863 b) Temperature Index	Conductor	
c) Shape of conductor Insulation a) Material b) Minimum Thickness mm	a) Material	Plain Stranded Copper (Class-2) as per IS: 8130/2013
Insulation a) Material PVC Type A as per IS:5831 b) Minimum Thickness mm 0.44 c) Pair/Triad identification White & Blue with numbered Polyester tape (OR) White & Blue with number printing on core Collective Screen a) Material Aluminium mylar tape b) Nominal Thickness mm 0.018 c) Material of Drain Wire Flexible ATC d) Size of Drain Wire (Approx.) 0.5 mm² (16/0.2 mm) Inner sheath a) Material Extruded PVC Type ST1 to IS: 5831 b) Minimum Thickness mm 0.3 Armouring a) Material Galvanised Steel b) Type of armouring Round Wire c) Nominal size of armour (mm) 0.9 d) Tolerance on armour dimensions ± 0.030 mm Outer sheath a) Material Extruded FR-LSH PVC Type ST1 to IS: 5831 b) Thickness mm 1.24 (Min.) c) colour of sheath Blue FR-LSH PROPERTIES a) Oxygen Index Min. 29% as per ASTM D- 2863 b) Temperature Index Min. 250 Deg.C as per ASTM D- 2863	b) Maximum D.C. resistance of conductor at 20° C (Ω /km)	12.3
a) Material PVC Type A as per IS:5831 b) Minimum Thickness mm 0.44 c) Pair/Triad identification White & Blue with numbered Polyester tape (OR) White & Blue with number printing on core Collective Screen a) Material Aluminium mylar tape b) Nominal Thickness mm 0.018 c) Material of Drain Wire Flexible ATC d) Size of Drain Wire (Approx.) 0.5 mm² (16/0.2 mm) Inner sheath a) Material Extruded PVC Type ST1 to IS: 5831 b) Minimum Thickness mm 0.3 Armouring a) Material Galvanised Steel b) Type of armouring Round Wire c) Nominal size of armour (mm) 0.9 d) Tolerance on armour dimensions ± 0.030 mm Outer sheath a) Material Extruded FR-LSH PVC Type ST1 to IS: 5831 b) Thickness mm 1.24 (Min.) c) colour of sheath Blue FR-LSH PROPERTIES a) Oxygen Index Min. 29% as per ASTM D- 2863 b) Temperature Index Min. 250 Deg.C as per ASTM D- 2863	c) Shape of conductor	Stranded Circular
b) Minimum Thickness mm c) Pair/Triad identification White & Blue with numbered Polyester tape (OR) White & Blue with number printing on core Collective Screen a) Material b) Nominal Thickness mm c) Material of Drain Wire d) Size of Drain Wire (Approx.) Inner sheath a) Material b) Minimum Thickness mm c) Salvanised PVC Type ST1 to IS: 5831 b) Minimum Thickness mm c) Armouring a) Material b) Type of armouring c) Nominal size of armour (mm) d) Tolerance on armour dimensions Duter sheath a) Material Extruded PVC Type ST1 to IS: 5831 b) Type of armouring c) Nominal size of armour (mm) d) Tolerance on armour dimensions Extruded FR-LSH PVC Type ST1 to IS: 5831 b) Thickness mm c) colour of sheath Extruded FR-LSH PVC Type ST1 to IS: 5831 b) Thickness mm c) colour of sheath Blue FR-LSH PROPERTIES a) Oxygen Index Min. 29% as per ASTM D- 2863 Min. 250 Deg.C as per ASTM D- 2863	Insulation	
c) Pair/Triad identification White & Blue with numbered Polyester tape (OR) White & Blue with number printing on core Collective Screen a) Material Aluminium mylar tape b) Nominal Thickness mm 0.018 c) Material of Drain Wire Flexible ATC d) Size of Drain Wire (Approx.) 0.5 mm² (16/0.2 mm) Inner sheath a) Material Extruded PVC Type ST1 to IS: 5831 b) Minimum Thickness mm 0.3 Armouring a) Material Galvanised Steel b) Type of armouring Round Wire c) Nominal size of armour (mm) 0.9 d) Tolerance on armour dimensions ± 0.030 mm Outer sheath a) Material Extruded FR-LSH PVC Type ST1 to IS: 5831 b) Thickness mm 1.24 (Min.) c) colour of sheath Blue FR-LSH PROPERTIES a) Oxygen Index Min. 29% as per ASTM D- 2863 b) Temperature Index Min. 250 Deg.C as per ASTM D- 2863	a) Material	PVC Type A as per IS:5831
Collective Screen a) Material Aluminium mylar tape b) Nominal Thickness mm 0.018 c) Material of Drain Wire Flexible ATC d) Size of Drain Wire (Approx.) 0.5 mm² (16/0.2 mm) Inner sheath a) Material Extruded PVC Type ST1 to IS: 5831 b) Minimum Thickness mm 0.3 Armouring a) Material Galvanised Steel b) Type of armouring Round Wire c) Nominal size of armour (mm) 0.9 d) Tolerance on armour dimensions ± 0.030 mm Outer sheath a) Material Extruded FR-LSH PVC Type ST1 to IS: 5831 b) Thickness mm 1.24 (Min.) c) colour of sheath Blue FR-LSH PROPERTIES a) Oxygen Index Min. 29% as per ASTM D- 2863 b) Temperature Index Min. 250 Deg.C as per ASTM D- 2863	b) Minimum Thickness mm	0.44
a) Material Aluminium mylar tape b) Nominal Thickness mm 0.018 c) Material of Drain Wire Flexible ATC d) Size of Drain Wire (Approx.) 0.5 mm² (16/0.2 mm) Inner sheath a) Material Extruded PVC Type ST1 to IS: 5831 b) Minimum Thickness mm 0.3 Armouring a) Material Galvanised Steel b) Type of armouring Round Wire c) Nominal size of armour (mm) 0.9 d) Tolerance on armour dimensions ± 0.030 mm Outer sheath a) Material Extruded FR-LSH PVC Type ST1 to IS: 5831 b) Thickness mm 1.24 (Min.) c) colour of sheath Blue FR-LSH PROPERTIES a) Oxygen Index Min. 29% as per ASTM D- 2863 b) Temperature Index Min. 250 Deg.C as per ASTM D- 2863	c) Pair/Triad identification	
b) Nominal Thickness mm c) Material of Drain Wire d) Size of Drain Wire (Approx.) Inner sheath a) Material b) Minimum Thickness mm c) Salvanised Steel b) Type of armouring c) Nominal size of armour (mm) d) Tolerance on armour dimensions Outer sheath a) Material b) Thickness mm c) Salvanised Steel c) Nominal size of armour (mm) d) Tolerance on armour dimensions Extruded PVC Type ST1 to IS: 5831 b) Thickness mm c) Salvanised Steel c) Nominal size of armour (mm) c) Salvanised Steel d) Tolerance on armour dimensions Extruded FR-LSH PVC Type ST1 to IS: 5831 c) Thickness mm c) Cuter sheath d) Material extruded FR-LSH PVC Type ST1 to IS: 5831 ex	Collective Screen	
c) Material of Drain Wire d) Size of Drain Wire (Approx.) Inner sheath a) Material b) Minimum Thickness mm a) Material c) Type of armouring c) Nominal size of armour (mm) d) Tolerance on armour dimensions Outer sheath a) Material b) Thickness mm Extruded PVC Type ST1 to IS: 5831 b) Tolerance on armour dimensions Extruded FR-LSH PVC Type ST1 to IS: 5831 c) Tolerance on armour dimensions Extruded FR-LSH PVC Type ST1 to IS: 5831 c) Thickness mm c) Colour of sheath Blue FR-LSH PROPERTIES a) Oxygen Index b) Temperature Index Min. 29% as per ASTM D- 2863 b) Temperature Index Min. 250 Deg.C as per ASTM D- 2863	a) Material	Aluminium mylar tape
d) Size of Drain Wire (Approx.) Inner sheath a) Material Extruded PVC Type ST1 to IS: 5831 b) Minimum Thickness mm 0.3 Armouring a) Material Galvanised Steel b) Type of armouring Round Wire c) Nominal size of armour (mm) d) Tolerance on armour dimensions • 0.99 d) Tolerance on armour dimensions • 0.030 mm Outer sheath a) Material Extruded FR-LSH PVC Type ST1 to IS: 5831 b) Thickness mm 1.24 (Min.) c) colour of sheath Blue FR-LSH PROPERTIES a) Oxygen Index b) Temperature Index Min. 29% as per ASTM D- 2863 b) Temperature Index Min. 250 Deg.C as per ASTM D- 2863	b) Nominal Thickness mm	0.018
Inner sheath a) Material Extruded PVC Type ST1 to IS: 5831 b) Minimum Thickness mm 0.3 Armouring a) Material Galvanised Steel b) Type of armouring Round Wire c) Nominal size of armour (mm) 0.9 d) Tolerance on armour dimensions ± 0.030 mm Outer sheath a) Material Extruded FR-LSH PVC Type ST1 to IS: 5831 b) Thickness mm 1.24 (Min.) c) colour of sheath Blue FR-LSH PROPERTIES a) Oxygen Index Min. 29% as per ASTM D- 2863 b) Temperature Index Min. 250 Deg.C as per ASTM D- 2863	c) Material of Drain Wire	Flexible ATC
a) Material Extruded PVC Type ST1 to IS: 5831 b) Minimum Thickness mm 0.3 Armouring a) Material Galvanised Steel b) Type of armouring Round Wire c) Nominal size of armour (mm) 0.9 d) Tolerance on armour dimensions ± 0.030 mm Outer sheath a) Material Extruded FR-LSH PVC Type ST1 to IS: 5831 b) Thickness mm 1.24 (Min.) c) colour of sheath Blue FR-LSH PROPERTIES a) Oxygen Index Min. 29% as per ASTM D- 2863 b) Temperature Index Min. 250 Deg.C as per ASTM D- 2863	d) Size of Drain Wire (Approx.)	0.5 mm ² (16/0.2 mm)
b) Minimum Thickness mm Armouring a) Material b) Type of armouring c) Nominal size of armour (mm) d) Tolerance on armour dimensions Outer sheath a) Material b) Thickness mm c) Colour of sheath Extruded FR-LSH PVC Type ST1 to IS: 5831 b) Thickness mm c) Colour of sheath Blue FR-LSH PROPERTIES a) Oxygen Index b) Temperature Index Min. 29% as per ASTM D- 2863 Min. 250 Deg.C as per ASTM D- 2863	Inner sheath	
Armouring a) Material Galvanised Steel b) Type of armouring Round Wire c) Nominal size of armour (mm) 0.9 d) Tolerance on armour dimensions ± 0.030 mm Outer sheath a) Material Extruded FR-LSH PVC Type ST1 to IS: 5831 b) Thickness mm 1.24 (Min.) c) colour of sheath Blue FR-LSH PROPERTIES a) Oxygen Index Min. 29% as per ASTM D- 2863 b) Temperature Index Min. 250 Deg.C as per ASTM D- 2863	a) Material	Extruded PVC Type ST1 to IS: 5831
a) Material Galvanised Steel b) Type of armouring Round Wire c) Nominal size of armour (mm) 0.9 d) Tolerance on armour dimensions ± 0.030 mm Outer sheath a) Material Extruded FR-LSH PVC Type ST1 to IS: 5831 b) Thickness mm 1.24 (Min.) c) colour of sheath Blue FR-LSH PROPERTIES a) Oxygen Index Min. 29% as per ASTM D- 2863 b) Temperature Index Min. 250 Deg.C as per ASTM D- 2863	b) Minimum Thickness mm	0.3
b) Type of armouring Round Wire c) Nominal size of armour (mm) 0.9 d) Tolerance on armour dimensions ± 0.030 mm Outer sheath a) Material Extruded FR-LSH PVC Type ST1 to IS: 5831 b) Thickness mm 1.24 (Min.) c) colour of sheath Blue FR-LSH PROPERTIES a) Oxygen Index Min. 29% as per ASTM D- 2863 b) Temperature Index Min. 250 Deg.C as per ASTM D- 2863	Armouring	
c) Nominal size of armour (mm) d) Tolerance on armour dimensions	a) Material	Galvanised Steel
d) Tolerance on armour dimensions ± 0.030 mm Outer sheath a) Material Extruded FR-LSH PVC Type ST1 to IS: 5831 b) Thickness mm 1.24 (Min.) c) colour of sheath Blue FR-LSH PROPERTIES a) Oxygen Index Min. 29% as per ASTM D- 2863 b) Temperature Index Min. 250 Deg.C as per ASTM D- 2863	b) Type of armouring	Round Wire
Outer sheath a) Material Extruded FR-LSH PVC Type ST1 to IS: 5831 b) Thickness mm 1.24 (Min.) c) colour of sheath Blue FR-LSH PROPERTIES a) Oxygen Index Min. 29% as per ASTM D- 2863 b) Temperature Index Min. 250 Deg.C as per ASTM D- 2863	c) Nominal size of armour (mm)	0.9
a) Material Extruded FR-LSH PVC Type ST1 to IS: 5831 b) Thickness mm 1.24 (Min.) c) colour of sheath Blue FR-LSH PROPERTIES a) Oxygen Index Min. 29% as per ASTM D- 2863 b) Temperature Index Min. 250 Deg.C as per ASTM D- 2863	d) Tolerance on armour dimensions	± 0.030 mm
b) Thickness mm 1.24 (Min.) c) colour of sheath Blue FR-LSH PROPERTIES a) Oxygen Index Min. 29% as per ASTM D- 2863 b) Temperature Index Min. 250 Deg.C as per ASTM D- 2863	Outer sheath	
c) colour of sheath Blue FR-LSH PROPERTIES a) Oxygen Index Min. 29% as per ASTM D- 2863 b) Temperature Index Min. 250 Deg.C as per ASTM D- 2863	a) Material	Extruded FR-LSH PVC Type ST1 to IS: 5831
FR-LSH PROPERTIES a) Oxygen Index b) Temperature Index Min. 29% as per ASTM D- 2863 Min. 250 Deg.C as per ASTM D- 2863	b) Thickness mm	1.24 (Min.)
a) Oxygen Index Min. 29% as per ASTM D- 2863 b) Temperature Index Min. 250 Deg.C as per ASTM D- 2863	c) colour of sheath	Blue
b) Temperature Index Min. 250 Deg.C as per ASTM D- 2863	FR-LSH PROPERTIES	
	a) Oxygen Index	Min. 29% as per ASTM D- 2863
c) Smoke Density Rating Max. 60% as per ASTM D- 2843	b) Temperature Index	Min. 250 Deg.C as per ASTM D- 2863
	c) Smoke Density Rating	Max. 60% as per ASTM D- 2843

Rev.No.:00 Issued Date:02/04/2018



CABLES

d) Acid Gas Generation Max. 20% as per IEC- 754- 1

e) Flammability Test As per IEC:332-I

Maximum conductor temperature under normal operating

conditions °C

12 times Overall diameter

70

Minimum bending radius		
Electrical Parameters		

a)	Mutual capacitance nf/km	<250
b)	Insulation resistance MΩ/km	10
c)	Inductance to resistance ratio (L/R) μ H/ Ω	<40
d)	Dielectric strength for 1 minute (H.V Test) kV	2

Max. tensile strength for Cables pulled with stocking (Newtons) 9 x D², D is the cable OD in mm

Approximate Overall diameter of cable mm 16.5 ± 2.0

Applicable Standard Generally, as per IS 1554 Part I/88 & BSEN 50288-7

Standard Drum Length (Mtr.) $1000 \pm 5\%$

Non-Standard Drum Length (Mtr.) Maximum 5% of order quantity

Embossing POLYCAB 300/500 VOLTS GRADE FR-LSH

YEAR POLYCAB 300/500 VOLTS GRADE FR-LSH CABLE
Printing SIZE SCREENED with SEQUENTIAL LENGTH MARKING at

EVERYONE METER INTERVAL

Rev.No.:00 Issued Date:02/04/2018