HL Listed CIR® Instrumentation Cable*
Individually Shielded Pairs & Triads + Ground
0.6/1kV 90°C Gexol® Insulation

Application
Designed and constructed to be a flexible alternative to Type MC cable where crush and impact protection in arctic conditions is required.

Features
- Complies with the requirements for TC-ER-HL* per UL 2225
- Gas & vapor tight – impervious to water and air
- Smaller bend radius (up to 40% smaller) than Type MC
- Reduced tray fill (up to 35% less) compared to Type MC
- Considerably more flexible than Type MC
- Brittle point as per ASTM D 746-07 exceeds -65°C for Jacket and -75°C for Insulation
- Exceeds CSA cold bend / cold impact (-40°C / -35°C)

Conductor
Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

Instrumentation Cable
Color Legend

Pairs	Black, White
Triads	Black, White, Red
Pair & Triad number printed on conductors	

Insulation
Gexol cross-linked flame retardant polyolefin, meets requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA 245. 600V/IEC 1000V.

Shielding
Each pair/triad is twisted with a bare tinned drain wire. Each pair/triad is shielded with polyester-backed aluminum foil tape to afford 100% coverage. Pair to pair or triad to triad, isolation – plus overall shielding – is provided.

Grounding Conductor
Soft annealed, flexible stranded, uninsulated, tinned copper sized in accordance with UL 1277.

Jacket
A black, flame retardant, oil, abrasion, chemical and sunlight resistant thermoset compound meeting UL 1309/CSA 245 and IEEE 1580.

Ratings and Approvals
- 90°C temperature rating
- UL Listed as Marine Shipboard Cable (E111461)
- UL Listed as Type TC-ER
- UL Listed as Type TC-ER-HL*
- American Bureau of Shipping (ABS) (99-BT5905-X)
- Flame Retardant – IEEE 1202
- Suitable for use in Class I, Div 2 & Zone 2 environments
- Suitable for use in Class I, Div 1 & Zone 1 environments*

**Cables up to 1" in OD*

HW291 Individually Shielded Pairs

HWC Part #	Size (AWG)	Size (mm^2)	Pairs	Nominal Diameter (inches)	Weight (lbs./1000 ft.)	DC Resistance at 20°C (Ohms/1000 ft.)	Mutual Capacitance (nF/1000 ft.)	Inductance (mH/1000 ft.)	HL Listed
HW29101601	16	1.3	1	0.431	106	4.52	32	0.2	•
HW29101602	16	1.3	2	0.725	279	4.52	32	0.2	•
HW29101604	16	1.3	4	0.770	340	4.52	32	0.2	•
HW29101608	16	1.3	8	1.075	702	4.52	32	0.2	
HW29101612	16	1.3	12	1.235	1062	4.52	32	0.2	
HW29101624	16	1.3	24	1.650	1560	4.52	32	0.2	

HW292 Individually Shielded Triads

HWC Part #	Size (AWG)	Size (mm^2)	Triads	Nominal Diameter (inches)	Weight (lbs./1000 ft.)	DC Resistance at 20°C (Ohms/1000 ft.)	Mutual Capacitance (nF/1000 ft.)	Inductance (mH/1000 ft.)	HL Listed
HW29201601	16	1.3	1	0.470	128	4.52	32	0.2	•
HW29201604	16	1.3	4	0.960	453	4.52	32	0.2	•
HW29201608	16	1.3	8	1.200	825	4.52	32	0.2	
HW29201612	16	1.3	12	1.395	1235	4.52	32	0.2	

Ampacities are based on Table 310.16 of the National Electrical Code (NEC) for conductors rate 90°C, in a multi-conductor cable, at an ambient temperature of 30°C. The 75°C column is provided for additional information. The ampacities shown apply to open runs of cable, installation in any approved raceway. Derating for more than three current carrying conductors within the cable is in accordance with NEC Table 310.15 (B) (2) (a). Ampacities shown also apply to cables installed in cable tray in accordance with NEC Section 392.11.