

DuraLife®-W FPL Unshielded

UL 2-Hour Fire Certified FIRE RESISTIVE ALARM CABLES
FHIT & FHIT7 SYSTEM.28A Electrical Circuit Integrity

SPECIFICATIONS



UL CERTIFIED TO UL 2196 & CAN/ULC-S139 / UL 1424 LISTED. FHIT & FHIT7 SYSTEMS NO. 28A. LOW SMOKE, ZERO HALOGEN DESIGN (LSOH). WET RATED.

Unshielded - 16AWG, 14AWG, 12AWG; 2-conductor. 16AWG; 4-conductor, 2 twisted pairs.

Electrical Circuit Integrity System.

NEC Type FPL; for use in electrical circuit protective systems.

DURALIFE APPLICATIONS

- Hospitals and Healthcare Facilities
- High Rises
- Sports Arenas
- Critical or Federal Buildings
- Bridges, Tunnels and Transit

COMPLIANCE:

- UL 1424 Listed FPL for Power-Limited Fire Alarm Circuits; 300V/90°C classified.
- UL Certified to UL 2196 or CAN/ULC-S139 2-hour fire rating in FHIT & FHIT7 System 28A.
- CSA Std. C22.2 No. 208-14 Fire Alarm & Signal Cable
- Fire alarm circuit integrity, emergency systems, and healthcare facilities (NEC Articles 760, 700 & 517).
- Meets National Fire Protection Code (NFPA 70 & 72) fire alarm survivability circuit requirements.
- Meets National Fire Protection Code (NFPA 130 & 502) fire alarm survivability circuit requirements.
- Suitable for 2-hr. certified fire-resistive applications in EMT conduit.*
- Fire certified for Power-Limited system use at 50V (12 AWG) and 72V (16 AWG, 14 AWG) phase-to-phase utilization voltages.
- UL Listed File No. E-241484. UL Fire Directory R-21213.
- Suitable for use in wet locations.

* DuraLife-W® FPL products are not approved for use in RMC or IMC conduit systems

HARDWARE SYSTEM CERTIFIED: (Refer to DuraLife®-W Installation Guide for details)

- EMT Conduit --- Wheatland EMT or Allied/Columbia EMT
- EMT Couplings --- Hubbell-Raco or Halex
- Compression Fittings --- Cooper Crouse-Hinds
- NEMA 1 Splice Enclosure/Pull Box --- Cooper B-Line (Pull box size up to 12x12x4 for 16AWG and 14AWG. 10x10x4 for 12AWG. Splice box must be 8x8x4.)
- Enclosure Set-screw Fittings --- Hubbell-Raco
- Copper Off-Set Fixed Lug Connector with set-screw --- Penn Union (16AWG - 14AWG)
- Mechanical Connector: Butt-type Crimp Terminal; Plated Copper --- 3M (16AWG, 14AWG, 12AWG)
- Pulling Lubricant --- Polywater J, LZ

*Certified assemblies, no substitute of any kind can be made

CONSTRUCTION:

- Oxygen-free bare copper (OFHC) conductors, solid and stranded; proprietary ceramifiable silicone rubber insulation; color-code black and red insulation on leads.
- Low smoke - zero halogen FRPE outer jacket. Black jacket color available.
- Standard construction is 3 twists per foot.
- Patented



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RADIX WIRE-II DURALIFE -W E241484 2/C 16 AWG FPL 90C / (UL) 2196/(ULC) CAN/S139 / CLASSIFIED 2 HR. FIRE RESISTIVE CABLE FOR USE IN FHIT AND FHIT7 ELECTRICAL CIRCUIT INTEGRITY SYSTEM 28A. SEE FIRE RESISTANCE DIRECTORY R21213. CSA LL13427 FAS90 300VFT1 (MONTH/YEAR)

RADIX P/N	#COND	AWG	NOMINAL INSUL THICKNESS (INCH)	NOMINAL JACKET THICKNESS (INCH)	NOMINAL O.D. (INCH)	MIN. - MAX. SPEC. RANGE	NET WEIGHT (LBS PER MFT)	COPPER LBS/MFT	NOMINAL CAPACITANCE (pF/FT)	CHARACTERISTIC IMPEDANCE @1MHZ (OHMS)
CIU16A0102	2	16 SOLID	0.032"	0.035"	0.292"	0.272" - 0.312"	55.41	15.6	15.3	110.6

RADIX WIRE-II DURALIFE -W E241484 4/C 16 AWG FPL 90C / (UL) 2196/(ULC) CAN/S139 / CLASSIFIED 2 HR. FIRE RESISTIVE CABLE FOR USE IN FHIT AND FHIT7 ELECTRICAL CIRCUIT INTEGRITY SYSTEM 28A. SEE FIRE RESISTANCE DIRECTORY R21213. CSA LL13427 FAS90 300VFT1 (MONTH/YEAR)

RADIX P/N	#COND	AWG	NOMINAL INSUL THICKNESS (INCH)	NOMINAL JACKET THICKNESS (INCH)	NOMINAL O.D. (INCH)	MIN. - MAX. SPEC. RANGE	NET WEIGHT (LBS PER MFT)	COPPER LBS/MFT	NOMINAL CAPACITANCE (pF/FT)	CHARACTERISTIC IMPEDANCE @1MHZ (OHMS)
CIU16A0104	4	16 SOLID	0.032"	0.035"	0.405"	0.385" - 0.425"	98	31.2	14.3	124.7

RADIX WIRE-II DURALIFE -W E241484 2/C 14 AWG FPL 90C / (UL) 2196/(ULC) CAN/S139 / CLASSIFIED 2 HR. FIRE RESISTIVE CABLE FOR USE IN FHIT AND FHIT7 ELECTRICAL CIRCUIT INTEGRITY SYSTEM 28A. SEE FIRE RESISTANCE DIRECTORY R21213. CSA LL13427 FAS90 300VFT1 (MONTH/YEAR)

RADIX P/N	#COND	AWG	NOMINAL INSUL THICKNESS (INCH)	NOMINAL JACKET THICKNESS (INCH)	NOMINAL O.D. (INCH)	MIN. - MAX. SPEC. RANGE	NET WEIGHT (LBS PER MFT)	COPPER LBS/MFT	NOMINAL CAPACITANCE (pF/FT)	CHARACTERISTIC IMPEDANCE @1MHZ (OHMS)
CIU14A0702	2	14/7	0.032"	.0035"	0.332"	0.312"-0.352"	61.1	25.1	17.3	99.4
CIU14A0102	2	14 SOLID	0.032"	.0035"	0.326"	0.322"-0.334"	59.01	25.62	19.3	95.0

RADIX WIRE-II DURALIFE -W E241484 2/C 12 AWG FPL 90C / (UL) 2196/(ULC) CAN/S139 / CLASSIFIED 2 HR. FIRE RESISTIVE CABLE FOR USE IN FHIT AND FHIT7 ELECTRICAL CIRCUIT INTEGRITY SYSTEM 28A. SEE FIRE RESISTANCE DIRECTORY R21213. CSA LL13427 FAS90 300VFT1 (MONTH/YEAR)

RADIX P/N	#COND	AWG	NOMINAL INSUL THICKNESS (INCH)	NOMINAL JACKET THICKNESS (INCH)	NOMINAL O.D. (INCH)	MIN. - MAX. SPEC. RANGE	NET WEIGHT (LBS PER MFT)	COPPER LBS/MFT	NOMINAL CAPACITANCE (pF/FT)	CHARACTERISTIC IMPEDANCE @1MHZ (OHMS)
CIU12A0702	2	12/7	0.032"	.0035"	0.398"	0.378-0.418"	99.0	41.5	18.6	94.9

Certifications & EMT Fill Listings

CERTIFICATIONS	16 AWG/2C	16 AWG/4C	14 AWG/2C	12 AWG/2C
Solid Conductor		✓	✓	—
Stranded Conductor	—	—	✓	✓
FILL RATES	16 AWG/2C	16 AWG/4C	14 AWG/2C	12 AWG/2C
½" EMT Vertical	1 cable	—	1 cable	—
¾" EMT Horizontal and Vertical	1 cable	1 cable	1 cable	1 cable
1" EMT Horizontal and Vertical	Up to 2 cables	Up to 2 cables	Up to 2 cables	Up to 2 cables
1 ¼" EMT Horizontal	Up to 4 cables	—	Up to 3 cables	Up to 3 cables
1 ¼" EMT Vertical	Up to 4 cables	—	Up to 3 cables	Up to 3 cables
1 ½" EMT Horizontal	Up to 6 cables	—	Up to 4 cables	Up to 4 cables
1 ½" EMT Vertical	Up to 6 cables	—	Up to 4 cables	Up to 4 cables
2" EMT Horizontal	Up to 10 cables	—	Up to 8 cables	Up to 7 cables
2" EMT Vertical	Up to 10 cables	—	Up to 8 cables	Up to 7 cables

Note: 16AWG, 14AWG, and 12AWG cables may be installed within the same raceway when not exceeding the number of cables associated with the 12AWG installation.

All dimensions listed above are nominal



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CERTIFICATION LISTINGS:

16AWG solid OFHC; 2-conductor vertical straight-through w/ couplings in 1" EMT conduit; 72" max. support spacing, pull box, 2 cables
16AWG solid OFHC; 2-conductor horizontal straight-through w/ couplings in ¾" EMT conduit; 48" max. support spacing
16AWG solid OFHC; 2-conductor horizontal straight-through w/ pull box in ¾" EMT conduit; 48" max. support spacing
16AWG solid OFHC; 2-conductor horizontal w/ mechanical splice in ¾" EMT conduit; 48" max. support spacing

16AWG solid OFHC; 4-conductor vertical straight-through w/ couplings in 1" EMT conduit; 72" vertical support max.; pull/splice box allowed; single cable splice allowed; 2 cables
16AWG solid OFHC; 4-conductor horizontal straight-through w/ couplings in 1" EMT conduit; 48" horizontal support max.; pull/splice box allowed; single cable splice allowed; 2 cables
16AWG solid OFHC; 4-conductor horizontal straight-through w/ couplings in ¾" EMT conduit; 48" max. support spacing
16AWG solid OFHC; 4-conductor horizontal straight-through w/ pull box in ¾" EMT conduit; 48" max. support spacing
16AWG solid OFHC; 4-conductor horizontal w/ mechanical splice in ¾" EMT conduit; 48" max. support spacing

14AWG 7-strand OFHC; 2-conductor vertical straight-through w/ couplings in 1" EMT conduit; 72" max. support spacing; pull box; 2 cables
14AWG 7-strand OFHC; 2-conductor horizontal straight-through w/ couplings in ¾" EMT conduit; 48" max. support spacing
14AWG 7-strand OFHC; 2-conductor horizontal straight-through w/ pull box in ¾" EMT conduit; 48" max. support spacing
14AWG 7-strand OFHC; 2-conductor horizontal w/ mechanical splice in ¾" EMT conduit; 48" max. support spacing

14AWG solid OFHC; 2-conductor vertical straight-through w/ couplings in 1" EMT conduit; 72" max. support spacing; pull box; 2 cables
14AWG solid OFHC; 2-conductor horizontal straight-through w/ couplings in ¾" EMT conduit; 48" max. support spacing
14AWG solid OFHC; 2-conductor horizontal straight-through w/ pull box in ¾" EMT conduit; 48" max. support spacing
14AWG solid OFHC; 2-conductor horizontal w/ mechanical splice in ¾" EMT conduit; 48" max. support spacing

12AWG 7-strand OFHC; 2-conductor vertical straight-through w/ couplings in 1" EMT conduit; 72" vertical support max.; pull/splice box allowed; single cable splice allowed. 2 cables
12AWG 7-strand OFHC; 2-conductor horizontal straight-through w/ couplings 1" EMT conduit; 48" horizontal support max.; pull/splice box allowed; single cable allowed. 2 cables
12AWG 7-strand OFHC; 2-conductor horizontal straight-through w/ couplings in ¾" EMT conduit; 48" max. support spacing
12AWG 7-strand OFHC; 2-conductor horizontal straight-through w/ pull box in ¾" EMT conduit; 48" max. support spacing
12AWG 7-strand OFHC; 2-conductor horizontal w/ mechanical splice in ¾" EMT conduit; 48" max. support spacing



Information included in this catalog is intended as a guideline only. for applications that require tight tolerances. Please contact the Radix factory for dimensional verification. Information herein is believed to be accurate as of publication date; however, if an error exists it is unintentional and Radix Wire is not responsible for any claim traceable to such error.

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