

Medium Voltage Fuses

2,400 - 38,000 VAC • Current-Limiting



Current-limiting “E” and “R” rated fuses are equipped with a mechanical indicator or striker pin that protrudes through the fuse cap upon operation of the fuse. This provides visual identification of a blown fuse and can be used as a trigger for external devices.

Note: Extension distance 1/2" min; extension force 2lb. min

General Information

The terms “Medium Voltage” and “High Voltage” have been used interchangeably by many people to describe fuses operating above 600 volts. Technically speaking, “medium voltage” fuses are those intended for the voltage range from 2,400 to 38,000 VAC. “High voltage” fuses are for circuits carrying voltages greater than 38,000 VAC.

“E” rated fuses are considered to be general purpose fuses and can be used to protect against low and high values of fault current. “R” rated fuses are designed for back-up protection. They must be used in series with other devices such as motor overload relays in order to achieve both overload and short-circuit protection.

Medium voltage fuses are not intended to provide overload protection in the same sense as fuses rated 600 volts or less. Medium voltage fuse current ratings do not have the same meanings as the ampere ratings of low voltage fuses.

All medium voltage fuses are limited in their ability to interrupt low value overcurrents, especially those between 100% and 200% of the fuse’s continuous current rating. They are designed to carry their rated current without exceeding the temperature rise permitted by NEMA and ANSI standards.

Additional application data can be found in the Fuse Application section of this catalog.

Littelfuse now offers a complete selection of “E” and “R” rated medium voltage fuses for the protection of transformers, potential transformers, feeders, and motor circuits. Single, double, and triple barrel designs are available to cover a wide range of current, voltage, and interrupting ratings. Conventional ferrule type, clip lock, and bolt-in mounting configurations are now available for virtually any application. Hermetically sealed fuses for use in hazardous environments are also offered.

Contact the factory or your local Littelfuse representative for additional fuse ratings or custom mounting configurations.

24 Hour Emergency Service is available. Call 847 824 1188.

Applications

- Power Transformer Protection
- Potential Transformer Protection
- Motor Controller Back-up Protection
- Fused Switches
- Feeder Circuits



Bolt-in Mount Fuses

R Rated Medium Voltage Fuses

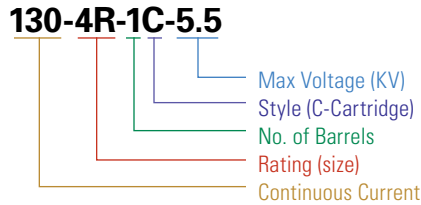
Current-Limiting

Features

“R” rated fuses provide required short-circuit protection for medium voltage motors, motor controllers and associated circuitry. These components have limited ability to absorb the energy of large short-circuit currents. Medium voltage motor controllers contain overload relays which provide both overload protection and locked rotor protection to the motor. The controllers are also intended to interrupt low value short-circuits within the capability of the motor controller. This protects the medium voltage fuse from sustained overcurrents which are less than their minimum interrupting rating.

NEMA Standards for “R” rated medium voltage power fuses require they operate within 15-35 seconds when subjected to an rms current 100 times the “R” rating. For example, a fuse with a 2R rating will open within 15 to 35 seconds on an applied current of $2 \times 100 = 200$ amperes.

Part Number System



Characteristics

Voltage Rating: 2,400 volts – 8,250 volts
Current Range: 2R – 36R

Options

- Hermetically sealed for use in hazardous locations (add “S” suffix to part number)
- Bolt-in mounting configurations



Hokey Feature*

*For hokey attachment; add “W” suffix to part number



| R Rated 2.75 KV | Catalog Number | Old Catalog Number | Size | Maximum Continuous Current @ 40 deg C. | Dim. A (inches) | Dim. B (inches) | Min. Interrupting Rating RMS Amps | Max Interrupting Rating RMS Asym | Figure Number |
|----------------------------------|-----------------|--------------------|------|--|-----------------|-----------------|-----------------------------------|----------------------------------|---------------|
| | 70-2R-1C-2.75 | LCK 2R | 2R | 70 | 7" | 10.875" | 170 | 80,000 | 1 |
| | 100-3R-1C-2.75 | LCK 3R | 3R | 100 | 7" | 10.875" | 250 | 80,000 | 1 |
| | 130-4R-1C-2.75 | LCK 4R | 4R | 130 | 7" | 10.875" | 340 | 80,000 | 1 |
| | 150-5R-1C-2.75 | LCK 5R | 5R | 150 | 7" | 10.875" | 390 | 80,000 | 1 |
| | 170-6R-1C-2.75 | LCK 6R | 6R | 170 | 7" | 10.875" | 500 | 80,000 | 1 |
| | 200-9R-1C-2.75 | LCK 9R | 9R | 200 | 7" | 10.875" | 760 | 80,000 | 1 |
| | 230-12R-1C-2.75 | LCK 12R | 12R | 230 | 7" | 10.875" | 1000 | 80,000 | 1 |
| | 390-18R-2C-2.75 | LCK 18R | 18R | 390 | 7" | 10.875" | 1500 | 80,000 | 2 |
| | 450-24R-2C-2.75 | LCK 24R | 24R | 450 | 7" | 10.875" | 1950 | 80,000 | 2 |

Add “w” suffix to part number for hokey attachment.

R Rated Medium Voltage Fuses

Current-Limiting



Figure 4



Figure 5



Figure 6

| R Rated 5.5 KV | Catalog Number | Old Catalog Number | Size | Maximum Continuous Current @ 40 Degrees C° | Dim. A (inches) | Dim. B (inches) | Min. Interrupting Rating RMS Amps | Max Interrupting Rating RMS (Asym) | Figure Number |
|---------------------------------|----------------|--------------------|------|--|-----------------|-----------------|-----------------------------------|------------------------------------|---------------|
| | 70-2R-1C-5.5 | LCL 2R | 2R | 70 | 12" | 15.875" | 170 | 80,000 | 4 |
| | 100-3R-1C-5.5 | LCL 3R | 3R | 100 | 12" | 15.875" | 250 | 80,000 | 4 |
| | 130-4R-1C-5.5 | LCL 4R | 4R | 130 | 12" | 15.875" | 340 | 80,000 | 4 |
| | 150-5R-1C-5.5 | LCL 5R | 5R | 150 | 12" | 15.875" | 390 | 80,000 | 4 |
| | 170-6R-1C-5.5 | LCL 6R | 6R | 170 | 12" | 15.875" | 500 | 80,000 | 4 |
| | 200-9R-1C-5.5 | LCL 9R | 9R | 200 | 12" | 15.875" | 760 | 80,000 | 4 |
| | 230-12R-1C-5.5 | LCL 12R | 12R | 230 | 12" | 15.875" | 1000 | 80,000 | 4 |
| | 390-18R-2C-5.5 | LCL 18R | 18R | 390 | 12" | 15.875" | 1500 | 80,000 | 5 |
| | 450-24R-2C-5.5 | LCL 24R | 24R | 450 | 12" | 15.875" | 1950 | 80,000 | 5 |
| | 480-26R-2C-5.5 | — | 26R | 480 | 12" | 15.875" | 2100 | 80,000 | 5 |
| | 550-30R-2C-5.5 | — | 30R | 550 | 12" | 15.875" | 2400 | 80,000 | 5 |
| | 600-32R-2C-5.5 | — | 32R | 600 | 12" | 15.875" | 2600 | 80,000 | 5 |
| | 650-36R-2C-5.5 | — | 36R | 650 | 12" | 15.875" | 2900 | 80,000 | 5 |
| | 550-30R-3C-5.5 | — | 30R | 550 | 12" | 15.875" | 2400 | 80,000 | 6 |
| 600-32R-3C-5.5 | — | 32R | 600 | 12" | 15.875" | 2600 | 80,000 | 6 | |
| 650-36R-3C-5.5 | LCL 36R | 36R | 650 | 12" | 15.875" | 2900 | 80,000 | 6 | |

| 5.5 KV 14" Clip Centers | Catalog Number | Old Catalog Number | Size | Maximum Continuous Current @ 40 Degrees C° | Dim. A (inches) | Dim. B (inches) | Min. Interrupting Rating RMS Amps | Max Interrupting Rating RMS (Asym) | Figure Number |
|----------------------------|-----------------|--------------------|------|--|-----------------|-----------------|-----------------------------------|------------------------------------|---------------|
| | 70-2R-1C-5.5X | — | 2R | 70 | 14" | 17.875" | 170 | 80,000 | 4 |
| | 100-3R-1C-5.5X | — | 3R | 100 | 14" | 17.875" | 250 | 80,000 | 4 |
| | 130-4R-1C-5.5X | — | 4R | 130 | 14" | 17.875" | 340 | 80,000 | 4 |
| | 150-5R-1C-5.5X | — | 5R | 150 | 14" | 17.875" | 390 | 80,000 | 4 |
| | 170-6R-1C-5.5X | — | 6R | 170 | 14" | 17.875" | 500 | 80,000 | 4 |
| | 200-9R-1C-5.5X | — | 9R | 200 | 14" | 17.875" | 760 | 80,000 | 4 |
| | 230-12R-1C-5.5X | — | 12R | 230 | 14" | 17.875" | 1000 | 80,000 | 4 |
| | 390-18R-2C-5.5X | — | 18R | 390 | 14" | 17.875" | 1500 | 80,000 | 5 |
| | 450-24R-2C-5.5X | — | 24R | 450 | 14" | 17.875" | 1950 | 80,000 | 5 |
| 550-30R-2C-5.5X | — | 30R | 550 | 14" | 17.875" | 2400 | 80,000 | 5 | |

| R Rated 8.25 KV | Catalog Number | Old Catalog Number | Size | Maximum Continuous Current @ 40 Degrees C° | Dim. A (inches) | Dim. B (inches) | Min. Interrupting Rating RMS Amps | Max Interrupting Rating RMS (Asym) | Figure Number |
|----------------------------------|-----------------|--------------------|------|--|-----------------|-----------------|-----------------------------------|------------------------------------|---------------|
| | 70-2R-1C-8.25 | — | 2R | 70 | 12" | 15.875" | 190 | 80,000 | 4 |
| | 100-3R-1C-8.25 | — | 3R | 100 | 12" | 15.875" | 225 | 80,000 | 4 |
| | 130-4R-1C-8.25 | — | 4R | 130 | 12" | 15.875" | 330 | 80,000 | 4 |
| | 150-5R-1C-8.25 | — | 5R | 150 | 12" | 15.875" | 440 | 80,000 | 4 |
| | 170-6R-1C-8.25 | — | 6R | 170 | 12" | 15.875" | 500 | 80,000 | 4 |
| | 200-9R-1C-8.25 | — | 9R | 200 | 12" | 15.875" | 740 | 80,000 | 4 |
| | 230-12R-1C-8.25 | — | 12R | 230 | 12" | 15.875" | 955 | 80,000 | 4 |
| | 390-18R-2C-8.25 | — | 18R | 390 | 12" | 15.875" | 1440 | 80,000 | 5 |
| 450-24R-2C-8.25 | — | 24R | 450 | 12" | 15.875" | 1910 | 80,000 | 5 | |

Add "w" suffix to part number for hookeye attachment.

R Rated Medium Voltage Fuses

Current-Limiting



Littelfuse POWR-GARD™ medium voltage fuses are available in several bolt-in mounting configurations. Contact factory for custom configurations.

- “B” Bolt mount
- “BI” Bolt-In mount
- “IB” Inverted-Bolt mount

Refer to illustrations for mounting dimensions.



Figure 7

Figure 8

Bolt Mount “B”



Figure 9

Figure 10

Inverted-Bolt “IB”

| R Rated | Catalog Number | Old Catalog Number | Size | Maximum Continuous Current @ Degrees C° | Dim. A (inches) | Dim. B (inches) | Min. Interrupting Rating RMS Amps | Max Interrupting Rating RMS (Asym) | Figure Number |
|-------------------------------|------------------|--------------------|------|---|-----------------|-----------------|-----------------------------------|------------------------------------|---------------|
| | | | | | | | | | |
| 2.75 KV Bolt Mount “B” | 70-2R-1B-2.75 | — | 2R | 70 | 4.6" | 13" | 170 | 80,000 | 7 |
| | 00-3R-1B-2.75 | — | 3R | 100 | 4.6" | 13" | 250 | 80,000 | 7 |
| | 30-4R-1B-2.75 | — | 4R | 130 | 4.6" | 13" | 240 | 80,000 | 7 |
| | 150-5R-1B-2.75 | — | 5R | 150 | 4.6" | 13" | 390 | 80,000 | 7 |
| | 170-6R-1B-2.75 | — | 6R | 170 | 4.6" | 13" | 500 | 80,000 | 7 |
| | 200-9R-1B-2.75 | — | 9R | 200 | 4.6" | 13" | 760 | 80,000 | 7 |
| | 230-12R-1B-2.75 | — | 12R | 230 | 4.6" | 13" | 1000 | 80,000 | 7 |
| | 390-18R-2B-2.75 | — | 18R | 390 | 7.4" | 13" | 1500 | 80,000 | 8 |
| | 450-24R-2B-2.75 | — | 24R | 450 | 7.4" | 13" | 1950 | 80,000 | 8 |
| 2.75 KV Inverted Bolt “IB” | 70-2R-1IB-2.75 | — | 2R | 70 | — | 13" | 170 | 80,000 | 9 |
| | 100-3R-1IB-2.75 | — | 3R | 100 | — | 13" | 250 | 80,000 | 9 |
| | 130-4R-1IB-2.75 | — | 4R | 130 | — | 13" | 340 | 80,000 | 9 |
| | 150-5R-1IB-2.75 | — | 5R | 150 | — | 13" | 390 | 80,000 | 9 |
| | 170-6R-1IB-2.75 | — | 6R | 170 | — | 13" | 500 | 80,000 | 9 |
| | 200-9R-1IB-2.75 | — | 9R | 200 | — | 13" | 760 | 80,000 | 9 |
| | 230-12R-1IB-2.75 | — | 12R | 230 | — | 13" | 1000 | 80,000 | 9 |
| | 390-18R-2IB-2.75 | — | 18R | 390 | — | 13" | 1500 | 80,000 | 10 |
| | 450-24R-2IB-2.75 | — | 24R | 450 | — | 13" | 1950 | 80,000 | 10 |

R Rated Medium Voltage Fuses

Current-Limiting

Bolt-In Mount "BI"

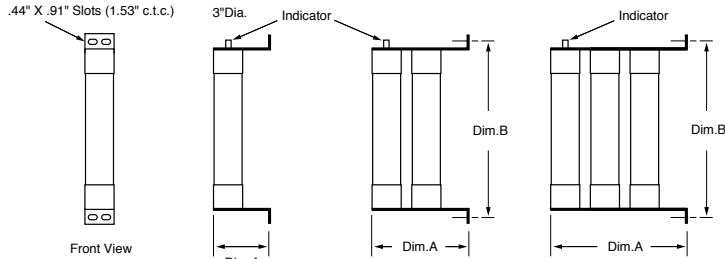


Figure 11

Figure 12

Figure 13

| R Rated | Catalog Number | Old Catalog Number | Size | Maximum Continuous Current @ 40° C. | Dim. A (inches) | Dim. B (inches) | Min. Interrupting Rating RMS Amps | Max Interrupting Rating RMS (Asym) | Figure Number |
|-------------------------------|------------------|--------------------|------|-------------------------------------|-----------------|-----------------|-----------------------------------|------------------------------------|---------------|
| 5.5 KV Bolt In Mount "BI" | 70-2R-1BI-5.5 | — | 2R | 70 | 3.6" | 18" | 170 | 80,000 | 11 |
| | 100-3R-1BI-5.5 | — | 3R | 100 | 3.6" | 18" | 250 | 80,000 | 11 |
| | 130-4R-1BI-5.5 | — | 4R | 130 | 3.6" | 18" | 340 | 80,000 | 11 |
| | 150-5R-1BI-5.5 | — | 5R | 150 | 3.6" | 18" | 390 | 80,000 | 11 |
| | 170-6R-1BI-5.5 | — | 6R | 170 | 3.6" | 18" | 500 | 80,000 | 11 |
| | 200-9R-1BI-5.5 | — | 9R | 200 | 3.6" | 18" | 760 | 80,000 | 11 |
| | 230-12R-1BI-5.5 | — | 12R | 230 | 3.6" | 18" | 1000 | 80,000 | 11 |
| | 390-18R-2BI-5.5 | — | 18R | 390 | 7.6" | 18" | 1500 | 80,000 | 12 |
| | 450-24R-2BI-5.5 | — | 24R | 450 | 7.6" | 18" | 1950 | 80,000 | 12 |
| | 480-26R-2BI-5.5 | — | 26R | 480 | 7.6" | 18" | 2200 | 80,000 | 12 |
| | 550-30R-2BI-5.5 | — | 30R | 550 | 7.6" | 18" | 2400 | 80,000 | 12 |
| | 600-32R-2BI-5.5 | — | 32R | 600 | 7.6" | 18" | 2650 | 80,000 | 12 |
| | 650-36R-2BI-5.5 | — | 36R | 650 | 7.6" | 18" | 2900 | 80,000 | 12 |
| | 550-30R-3BI-5.5 | — | 30R | 550 | — | 18" | — | 80,000 | 13 |
| | 600-32R-3BI-5.5 | — | 32R | 600 | — | 18" | — | 80,000 | 13 |
| 650-36R-3BI-5.5 | — | 36R | 650 | — | 18" | — | 80,000 | 13 | |
| 700-38R-3BI-5.5 | — | 38R | 700 | — | 18" | — | 80,000 | 13 | |
| 5.5 KV Bolt Mount "B" | 70-2R-1B-5.5 | — | 2R | 70 | 4.6" | 18" | 170 | 80,000 | 7 |
| | 100-3R-1B-5.5 | — | 3R | 100 | 4.6" | 18" | 250 | 80,000 | 7 |
| | 130-4R-1B-5.5 | — | 4R | 130 | 4.6" | 18" | 340 | 80,000 | 7 |
| | 150-5R-1B-5.5 | — | 5R | 150 | 4.6" | 18" | 390 | 80,000 | 7 |
| | 170-6R-1B-5.5 | — | 6R | 170 | 4.6" | 18" | 500 | 80,000 | 7 |
| | 200-9R-1B-5.5 | — | 9R | 200 | 4.6" | 18" | 760 | 80,000 | 7 |
| | 230-12R-1B-5.5 | — | 12R | 230 | 4.6" | 18" | 1000 | 80,000 | 7 |
| | 390-18R-2B-5.5 | — | 18R | 390 | 7.4" | 18" | 1500 | 80,000 | 8 |
| | 450-24R-2B-5.5 | — | 24R | 450 | 7.4" | 18" | 1950 | 80,000 | 8 |
| | 550-30R-2B-5.5 | — | 30R | 550 | 8.4" | 18" | 2400 | 80,000 | 8 |
| | 600-32R-2B-5.5 | — | 32R | 600 | 8.4" | 18" | 2650 | 80,000 | 8 |
| 650-36R-2B-5.5 | — | 36R | 650 | 8.4" | 18" | 2900 | 80,000 | 8 | |
| 5.5 KV Inverted Bolt "IB" | 70-2R-1IB-5.5 | — | 2R | 70 | — | 18" | 170 | 80,000 | 9 |
| | 100-3R-1IB-5.5 | — | 3R | 100 | — | 18" | 250 | 80,000 | 9 |
| | 130-4R-1IB-5.5 | — | 4R | 130 | — | 18" | 340 | 80,000 | 9 |
| | 150-5R-1IB-5.5 | — | 5R | 150 | — | 18" | 390 | 80,000 | 9 |
| | 170-6R-1IB-5.5 | — | 6R | 170 | — | 18" | 500 | 80,000 | 9 |
| | 200-9R-1IB-5.5 | — | 9R | 200 | — | 18" | 760 | 80,000 | 9 |
| | 230-12R-1IB-5.5 | — | 12R | 230 | — | 18" | 1000 | 80,000 | 9 |
| | 390-18R-2IB-5.5 | — | 18R | 390 | — | 18" | 1500 | 80,000 | 10 |
| | 450-24R-2IB-5.5 | — | 24R | 450 | — | 18" | 1950 | 80,000 | 10 |
| | 550-30R-2IB-5.5 | — | 30R | 550 | — | 18" | 2400 | 80,000 | 10 |
| | 600-32R-2IB-5.5 | — | 32R | 600 | — | 18" | 2650 | 80,000 | 10 |
| 650-36R-2IB-5.5 | — | 36R | 650 | — | 18" | 2900 | 80,000 | 10 | |
| 8.25 KV Bolt-In Mount "BI" | 70-2R-1BI-8.25 | — | 2R | 70 | 3.6" | 18" | 190 | 80,000 | 11 |
| | 100-3R-1BI-8.25 | — | 3R | 100 | 3.6" | 18" | 225 | 80,000 | 11 |
| | 130-4R-1BI-8.25 | — | 4R | 130 | 3.6" | 18" | 330 | 80,000 | 11 |
| | 150-5R-1BI-8.25 | — | 5R | 150 | 3.6" | 18" | 400 | 80,000 | 11 |
| | 170-6R-1BI-8.25 | — | 6R | 170 | 3.6" | 18" | 500 | 80,000 | 11 |
| | 200-9R-1BI-8.25 | — | 9R | 200 | 3.6" | 18" | 740 | 80,000 | 11 |
| | 230-12R-1BI-8.25 | — | 12R | 230 | 3.6" | 18" | 955 | 80,000 | 11 |
| | 390-18R-2BI-8.25 | — | 18R | 390 | 7.6" | 18" | 1440 | 80,000 | 12 |
| 450-24R-2BI-8.25 | — | 24R | 450 | 7.6" | 18" | 1910 | 80,000 | 12 | |

Medium Voltage Fuses

Live Parts



Live parts are available for mounting "E", "R", and "PT" single, double, and triple barrel fuses. Mounting clips are available for ferrule type and clip lock style fuses. All clips are sold in pairs. Contact factory for additional live parts.

Part Number: 700-156*

System Number: 0700156.Z

For use with 1-9/16" to 1-5/8" (1.625") diameter PT fuses.



Part Number: 700-300*

System Number: 0700300.Z

For use with 3" diameter fuses.



Part Number: 700-500*

System Number: 0700500.Z

For use with all 13/16" (.8125") diameter PT fuses.



Part Number: 700-530*

System Number: 0700530.Z

For use with all 3" diameter fuses.



Part Number: 700-520-CL*

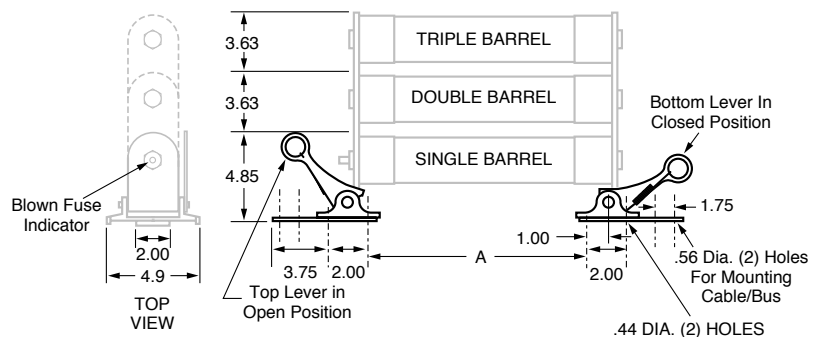
System Number: 0700520.ZXCL

Clip Lock Design (For CL-14)



* One Pair. Dimensions for reference only.

Mounting Details for Clip Lock



Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



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