

VHF 100Watt Mobile Amplifier

136-174 MHz

General Specifications

- Frequency Range: 136-174 MHz
- 100 Watts Output Power
- Input Power – set at the factory – see the table below
- Spurious & Harmonics meets FCC requirements
- Input/output Impedance: 50 Ohm
- Input/output Connector: type “UHF” female
- Duty Cycle at nominal voltage: 50% (5-minute maximum for Transmit mode)
- Operating Voltage: 13.8 VDC (nominal); 17.8 VDC (maximum)
- Off-Duty mode (no voltage at “+ IGNITION” clamp) DC current 0.1 mA (maximum)
- Receive mode DC current 185 mA (maximum)
- Transmit mode DC current: 18 A (nominal); 21 A (maximum)
- DC Connector: terminal block, screws # 6-32
- Load VSWR protection; overheat protection
- Indicator LEDs: DC (fleshing with alarm), TX
- Switching time to Transmit mode 200 us (nominal)
- Conventional cooling
- Operating Temp Range: -30°C to +60°C
- Storage and Transport Temp: -40°C to +70°C
- Humidity: 80% at +40°C (non-condensing)
- Altitude: 10,000 ft. maximum



Power Input Range

Model Description	Power Input
DSDTV100-R1	100-200 mW
DSDTV100-R2	200-500 mW
DSDTV100-R5	500 mW – 1000 mW
DSDTV100-01	1-2 W
DSDTV100-02	2-5 W
DSDTV100-05	5-10 W
DSDTV100-10	10-20 W
DSDTV100-20	20-45 W

Dimensions and Weight

- Dimensions: 2.8”H x 9.8”D x 6.8”W
- Weight: 5 lbs.

Optional Features Available

- Alternate input/output connectors
 - “TNC” female
 - “N” female
 - “BNC” female

These are preliminary specifications and are subject to change. Patents applied for.



Headquarters
100 High Grove Blvd.
Glendale Heights, IL 60139
P 847 908 5400
F 847 908 5408

Defense Solutions
1803 Mt. Rose Ave., Bldg. B
York, PA 17403
P 717 235 5474
F 717 227 4444

www.crescendrf.com
sales@crescendrf.com

50Watt UHF Mobile Amplifier



General Specifications

- Frequency Range: 403-450 MHz (UL), 450-512 MHz (UH)
- 50 Watts Output Power
- Input Power 1–5 W
- Spurious & harmonics meets FCC requirements
- Input/output Impedance: 50 Ohm
- Input/output Connector: type “UHF” female
- Duty Cycle at nominal voltage: 50% (5-minute maximum for Transmit mode)
- Operating Voltage: 13.8 VDC (nominal); 17.8 VDC (maximum)
- Receive mode DC current 1.5 mA (maximum)
- Transmit mode DC current: 11 A (nominal); 13 A (maximum)
- DC Connector: terminal block, screws # 6-32
- Load VSWR protection; overheat protection
- Switching time to Transmit mode 400 us (nominal)
- Input/output Connector: UHF
- Conventional cooling
- Operating Temp Range: -30°C to +60°C
- Storage and Transport Temp: -40°C to +70°C
- Humidity: 80% at +40°C (non-condensing)
- Altitude: 10,000 ft. maximum

Power Input Range

Model Description	Power Input	Power
DSDTUL50-02	1-5 W	403-450 MHz
DSDTUH50-02	1-5 W	450-512 MHz

Dimensions and Weight

- Dimensions: 2.7”H x 7.7”D x 6.8”W
- Weight: 4 lbs.

Optional Features Available

- Alternate input/output connectors
 - “TNC” female
 - “N” female
 - “BNC” female

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100 High Grove Blvd.
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F 847 908 5408

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York, PA 17403
P 717 235 5474
F 717 227 4444

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50Watt 700/800 MHz Mobile Amplifier



General Specifications

- Frequency Range: 764-870 MHz
- 50 Watts Output Power
- Input Power 1–4 W
- Spurious & harmonics meets FCC requirements
- Input/output Impedance: 50 Ohm
- Input/output Connector: type "TNC" female
- Duty Cycle at nominal voltage up to 100%
- Operating Voltage: 13.8 VDC (nominal); 17.8 VDC (maximum)
- Receive mode DC current 1.5 mA (maximum)
- Transmit mode DC current: 11 A (nominal); 13 A (maximum)
- DC Connector: terminal block, screws # 6-32
- Load VSWR protection; overheat protection
- Switching time to Transmit mode 400 us (nominal)
- Input/output Connector: UHF
- Conventional cooling
- Operating Temp Range: -30°C to +60°C
- Storage and Transport Temp: -40°C to +70°C
- Humidity: 80% at +40°C (non-condensing)
- Altitude: 10,000 ft. maximum

Power Input Range

Model Description	Power Input
DSDTJK50-01T	1-4 W

Dimensions and Weight

- Dims: 2.8"H x 9.8"D x 6.8"W
- Weight: 5 lbs.

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100 High Grove Blvd.
Glendale Heights, IL 60139
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F 847 908 5408

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1803 Mt. Rose Ave., Bldg. B
York, PA 17403
P 717 235 5474
F 717 227 4444

www.crescendrf.com
sales@crescendrf.com

P5 Series- 50W VHF

General Specifications

- Frequency Range: 136-174 MHz (DE)
- 50 Watts Output Power
- Input Power – set at the factory – see the table below
- Spurious & harmonics meet FCC requirements
- Input/output Impedance: 50 Ohm
- Input/Output RF Connectors: type 'N' female
- Operating Voltage: 13.8 VDC (nominal)
- DC Current: 10 A (nominal); 12 Amperes (maximum)
- DC Connector: terminal block, screws # 6-32
- Load VSWR protection; overheat protection
- Cooling Method: fan forced air over heat sink; fan is on with RF signal or/and overheat
- Indicator LEDs: DC on, low output, high VSWR, high temperature
- Control/Monitoring connectors: power setup, common alarm signal
- Operating Temp Range: -30°C to +60°C
- Storage and Transport Temp: -40°C to +70°C
- Humidity: 80% at +40°C (non-condensing)
- Altitude: 10,000 ft. maximum



Power Input/output Range

Model Description	Required Power Input
P5-R1DE1-C5-001	100-200 mW
P5-R2DE1-C5-001	200-500 mW
P5-R5DE1-C5-001	500 mW – 1 W
P5-1DE1-C5-001	1-2 W
P5-2DE1-C5-001	2-5 W
P5-5DE1-C5-001	5-10 W
P5-10DE1-C5-001	10-20 W

Dimensions and Weight

- Dimensions: 7”H x 6”D x 19”W
- Weight: 10 lbs. nominal
- 19” Rack Mount

Optional Features Available

- By-Pass
- T/R Switch
- Power Supply

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P10 Series - 100W VHF



General Specifications

- Frequency Range: 136-174 MHz (DE)
- 100 Watts Output Power
- Input Power – set at the factory – see the table below
- Spurious & harmonics meet FCC requirements
- Input/output Impedance: 50 Ohm
- Input/Output RF Connectors: type 'N' female
- Operating Voltage: 13.8 VDC (nominal)
- DC Current: 19 A (nominal); 23 Amperes (maximum)
- DC Connector: terminal block, screws # 6-32
- Load VSWR protection; overheat protection
- Cooling Method: fan forced air over heat sink; fan is on with RF signal or/and overheat
- Indicator LEDs: DC on, low output, high VSWR, high temperature
- Control/Monitoring connectors: power setup, common alarm signal
- Operating Temp Range: -30°C to +60°C
- Storage and Transport Temp: -40°C to +70°C
- Humidity: 80% at +40°C (non-condensing)
- Altitude: 10,000 ft. maximum

Power Input/output Range

Model Description	Required Power Input
P10-R1DE1-C5-001	100-200 mW
P10-R2DE1-C5-001	200-500 mW
P10-R5DE1-C5-001	500 mW – 1 W
P10-1DE1-C5-001	1-2 W
P10-2DE1-C5-001	2-5 W
P10-5DE1-C5-001	5-10 W
P10-10DE1-C5-001	10-20 W
P10-20DE1-C5-001	20-50 W

Dimensions and Weight

- Dims: 7" H x 6" D x 19" W
- Weight: 10 lbs. nominal
- 19" Rack Mount

Optional Features Available

- By-Pass
- T/R Switch
- Power Supply

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P5 Series - 50W UHF



General Specifications

- Frequency Range: 403-450 MHz (UL) 450-512 MHz (UH)
- 50 Watts Output Power
- Input Power – set at the factory – see the table below
- Spurious & harmonics meet FCC requirements
- Input/output Impedance: 50 Ohm
- Input/Output RF Connectors: type 'N' female
- Operating Voltage: 13.8 VDC (nominal)
- DC Current: 11 A (nominal); 13 Amperes (maximum)
- DC Connector: terminal block, screws # 6-32
- Load VSWR protection; overheat protection
- Cooling Method: fan forced air over heat sink; fan is on with RF signal or/and overheat
- Indicator LEDs: DC on, low output, high VSWR, high temperature
- Control/Monitoring connectors: power setup, common alarm signal
- Operating Temp Range: -30°C to +60°C
- Storage and Transport Temp: -40°C to +70°C
- Humidity: 80% at +40°C (non-condensing)
- Altitude: 10,000 ft. maximum

Power Input/output Range

Model Description*	Required Power Input
P5-R1XX1-C5-001	100-200 mW
P5-R2XX1-C5-001	200-500 mW
P5-R5XX1-C5-001	500 mW – 1 W
P5-1XX1-C5-001	1-2 W
P5-2XX1-C5-001	2-5 W
P5-5XX1-C5-001	5-10 W
P5-10XX1-C5-001	10-20 W

*XX-Insert the letter definition for the frequency range chosen

Dimensions and Weight

- Dimensions: 7”H x 6”D x 19”W
- Weight: 10 lbs. nominal
- 19” Rack Mount

Optional Features Available

- By-Pass Circuits
- T/R Switch
- Power Supply

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F 717 227 4444

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sales@crescendrf.com

P10 Series - 100W UHF



General Specifications

- Frequency Range: 403-450 MHz (UL) 450-512 MHz (UH)
- 100 Watts Output Power
- Input Power – set at the factory – see the table below
- Spurious & harmonics meet FCC requirements
- Input/output Impedance: 50 Ohm
- Input/Output RF Connectors: type 'N' female
- Operating Voltage: 13.8 VDC (nominal)
- DC Current: 21 A (nominal); 26 Amperes (maximum)
- DC Connector: terminal block, screws # 6-32
- Load VSWR protection; overheat protection
- Cooling Method: fan forced air over heat sink; fan is on with RF signal or/and overheat
- Indicator LEDs: DC on, low output, high VSWR, high temperature
- Control/Monitoring connectors: power setup, common alarm signal
- Operating Temp Range: -30°C to +60°C
- Storage and Transport Temp: -40°C to +70°C
- Humidity: 80% at +40°C (non-condensing)
- Altitude: 10,000 ft. maximum

Power Input/output Range

Model Description*	Required Power Input
P10-R1XX1-C5-001	100-200 mW
P10-R2XX1-C5-001	200-500 mW
P10-R5XX1-C5-001	500 mW – 1 W
P10-1XX1-C5-001	1-2 W
P10-2XX1-C5-001	2-5 W
P10-5XX1-C5-001	5-10 W
P10-10XX1-C5-001	10-20 W
P10-20XX1-C5-001	20-50 W

*XX-Insert the letter definition for the frequency range chosen

Dimensions and Weight

- Dimensions: 7”H x 6”D x 19”W
- Weight: 10 lbs. nominal
- 19” Rack Mount

Optional Features Available

- By-Pass
- T/R Switch
- Power Supply

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P 717 235 5474
F 717 227 4444

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sales@crescendrf.com

P15 Series - 150W UHF



General Specifications

- Frequency Range: 403-450 MHz (UL) 450-512 MHz (UH)
- 150 Watts Output Power
- Input Power – set at the factory – see the table below
- Spurious & harmonics meet FCC requirements
- Input/output Impedance: 50 Ohm
- Input/Output RF Connectors: type 'N' female
- Operating Voltage: 13.8 VDC (nominal)
- DC Current: 36 A (nominal); 43 Amperes (maximum)
- DC Connector: terminal block, screws # 6-32
- Load VSWR protection; overheat protection
- Cooling Method: fan forced air over heat sink; fan is on with RF signal or/and overheat
- Indicator LEDs: DC on, low output, high VSWR, high temperature
- Control/Monitoring connectors: power setup, common alarm signal
- Operating Temp Range: -30°C to +60°C
- Storage and Transport Temp: -40°C to +70°C
- Humidity: 80% at +40°C (non-condensing)
- Altitude: 10,000 ft. maximum

Power Input/output Range

Model Description*	Required Power Input
P15-R1XX1-C6-001	100-200 mW
P15-R2XX1-C6-001	200-500 mW
P15-R5XX1-C6-001	500 mW – 1 W
P15-1XX1-C6-001	1-2 W
P15-2XX1-C6-001	2-5 W
P15-5XX1-C6-001	5-10 W
P15-10XX1-C6-001	10-20 W
P15-20XX1-C6-001	20-50 W

*XX-Insert the letter definition for the frequency range chosen

Dimensions and Weight

- Dimensions: 10”H x 6”D x 19”W
- Weight: 14 lbs. nominal
- 19” Rack Mount

Optional Features Available

- By-Pass
- T/R Switch
- Power Supply

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100 High Grove Blvd.
Glendale Heights, IL 60139
P 847 908 5400
F 847 908 5408

Defense Solutions
1803 Mt. Rose Ave., Bldg. B
York, PA 17403
P 717 235 5474
F 717 227 4444

www.crescendrf.com
sales@crescendrf.com

P8 Series 700/800 MHz

General Specifications

- Frequency Range: 764-870 MHz
- 80 Watts Output Power
- Input Power – set at the factory – see the table below
- Spurious & harmonics meet FCC requirements
- Input/output Impedance: 50 Ohm
- Input/Output RF Connectors: type 'N' female
- Operating Voltage: 13.8 VDC (nominal)
- DC Current: 18 A (nominal); 24 Amperes (maximum)
- DC Connector: terminal block, screws # 6-32
- Load VSWR protection; overheat protection
- Cooling Method: fan forced air over heat sink; fan is on with RF signal or/and overheat
- Indicator LEDs: DC on, low output, high VSWR, high temperature
- Control/Monitoring connectors: power setup, common alarm signal
- Operating Temp Range: -30°C to +60°C
- Storage and Transport Temp: -40°C to +70°C
- Humidity: 80% at +40°C (non-condensing)
- Altitude: 10,000 ft. maximum



Power Input/output Range

Model Description	Required Power Input
P8-R1JK1-C5-001	100-200 mW
P8-R2JK1-C5-001	200-500 mW
P8-R5JK1-C5-001	500 mW – 1 W
P8-1JK1-C5-001	1-2 W
P8-2JK1-C5-001	2-5 W
P8-5JK1-C5-001	5-10 W
P8-10JK1-C5-001	10-20 W
P8-20JK1-C5-001	20-50 W

Dimensions and Weight

- Dimensions: 7”H x 6”D x 19”W
- Weight: 10 lbs. nominal
- 19” Rack Mount

Optional Features Available

- By-Pass Circuit
- T/R Switch
- Power Supply

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P 847 908 5400
F 847 908 5408

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1803 Mt. Rose Ave., Bldg. B
York, PA 17403
P 717 235 5474
F 717 227 4444

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sales@crescendrf.com

P15 Series 700-800 MHz

General Specifications

- Frequency Range: 764-870 MHz
- 150 Watts Output Power
- Input Power – set at the factory – see the table below
- Spurious & harmonics meet FCC requirements
- Input/output Impedance: 50 Ohm
- Input/Output RF Connectors: type 'N' female
- Operating Voltage: 13.8 VDC (nominal)
- DC Current: 36 A (nominal); 43 Amperes (maximum)
- DC Connector: terminal block, screws # 6-32
- Load VSWR protection; overheat protection
- Cooling Method: fan forced air over heat sink; fan is on with RF signal or/and overheat
- Indicator LEDs: DC on, low output, high VSWR, high temperature
- Control/Monitoring connectors: power setup, common alarm signal
- Operating Temp Range: -30°C to +60°C
- Storage and Transport Temp: -40°C to +70°C
- Humidity: 80% at +40°C (non-condensing)
- Altitude: 10,000 ft. maximum



Power Input/output Range

Model Description	Required Power Input
P15-R1JK1-C6-001	100-200 mW
P15-R2JK1-C6-001	200-500 mW
P15-R5JK1-C6-001	500 mW – 1 W
P15-1JK1-C6-001	1-2 W
P15-2JK1-C6-001	2-5 W
P15-5JK1-C6-001	5-10 W
P15-10JK1-C6-001	10-20 W
P15-20JK1-C6-001	20-50 W

Dimensions and Weight

- Dims: 10”H x 6”D x 19” W
- Weight: 14 lbs. nominal
- 19” Rack Mount

Optional Features Available

- By-Pass
- T/R Switch
- Power Supply

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F 847 908 5408

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F 717 227 4444

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P8 Series 900 MHz

General Specifications

- Frequency Range: 890-942 MHz
- 80 Watts Output Power
- Input Power – set at the factory – see the table below
- Spurious & harmonics meet FCC requirements
- Input/output Impedance: 50 Ohm
- Input/Output RF Connectors: type 'N' female
- Operating Voltage: 13.8 VDC (nominal)
- DC Current: 18 A (nominal); 24 Amperes (maximum)
- DC Connector: terminal block, screws # 6-32
- Load VSWR protection; overheat protection
- Cooling Method: fan forced air over heat sink; fan is on with RF signal or/and overheat
- Indicator LEDs: DC on, low output, high VSWR, high temperature
- Control/Monitoring connectors: power setup, common alarm signal
- Operating Temp Range: -30°C to +60°C
- Storage and Transport Temp: -40°C to +70°C
- Humidity: 80% at +40°C (non-condensing)
- Altitude: 10,000 ft. maximum



Power Input/output Range

Model Description	Required Power Input
P8-R1L1-C5-001	100-200 mW
P8-R2L1-C5-001	200-500 mW
P8-R5L1-C5-001	500 mW – 1 W
P8-1L1-C5-001	1-2 W
P8-2L1-C5-001	2-5 W
P8-5L1-C5-001	5-10 W
P8-10L1-C5-001	10-20 W
P8-20L1-C5-001	20-50 W

Dimensions and Weight

- Dimensions: 7”H x 6”D x 19”W
- Weight: 10 lbs. nominal
- 19” Rack Mount

Optional Features Available

- By-Pass Circuits
- T/R Switch
- Power Supply

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100 High Grove Blvd.
Glendale Heights, IL 60139
P 847 908 5400
F 847 908 5408

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1803 Mt. Rose Ave., Bldg. B
York, PA 17403
P 717 235 5474
F 717 227 4444

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sales@crescendrf.com

P15 Series 900 MHz

General Specifications

- Frequency Range: 890-942 MHz
- 150 Watts Output Power
- Input Power – set at the factory – see the table below
- Spurious & harmonics meet FCC requirements
- Input/output Impedance: 50 Ohm
- Input/Output RF Connectors: type 'N' female
- Operating Voltage: 13.8 VDC (nominal)
- DC Current: 36 A (nominal); 43 Amperes (maximum)
- DC Connector: terminal block, screws # 6-32
- Load VSWR protection; overheat protection
- Cooling Method: fan forced air over heat sink; fan is on with RF signal or/and overheat
- Indicator LEDs: DC on, low output, high VSWR, high temperature
- Control/Monitoring connectors: power setup, common alarm signal
- Operating Temp Range: -30°C to +60°C
- Storage and Transport Temp: -40°C to +70°C
- Humidity: 80% at +40°C (non-condensing)
- Altitude: 10,000 ft. maximum



Power Input/output Range

Model Description	Required Power Input
P15-R1L1-C6-001	100-200 mW
P15-R2L1-C6-001	200-500 mW
P15-R5L1-C6-001	500 mW – 1 W
P15-1L1-C6-001	1-2 W
P15-2L1-C6-001	2-5 W
P15-5L1-C6-001	5-10 W
P15-10L1-C6-001	10-20 W
P15-20L1-C6-001	20-50 W

Dimensions and Weight

- Dims: 10”H x 6”D x 19” W
- Weight: 14 lbs. nominal
- 19” Rack Mount

Optional Features Available

- By-Pass
- T/R Switch
- Power Supply

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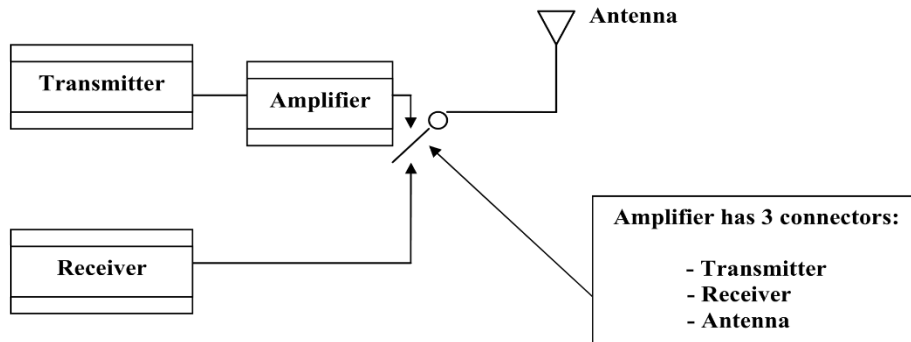
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T/R Switch and Bypass Relay Options

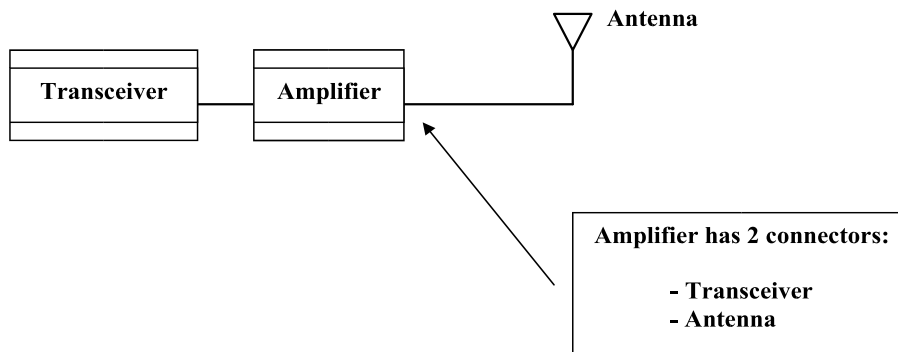
T/R Switch Option

A T/R Switch may be required if the base station has separate transmit and receive ports (connectors) and only one antenna. There are three connections: one to the antenna, one to the transmit connector and one to the receive connector. The relay switching operation at the amplifier is sensed by RF from the transmitter.



Bypass Relay Option

A Bypass Relay is used if the base station is a simplex type (transmit and receive is handled on the same connector). There are two connections: one to the antenna and one to the transceiver. This option also functions as a power down bypass relay, meaning that if the amplifier AC or DC power is lost, the switch automatically bypasses the amplifier so the transceiver is connected to the antenna in both transmit and receive. Normal operation resumes once the amplifier is again properly powered on. The relay switching operation at the amplifier is sensed by RF from the transmitter.



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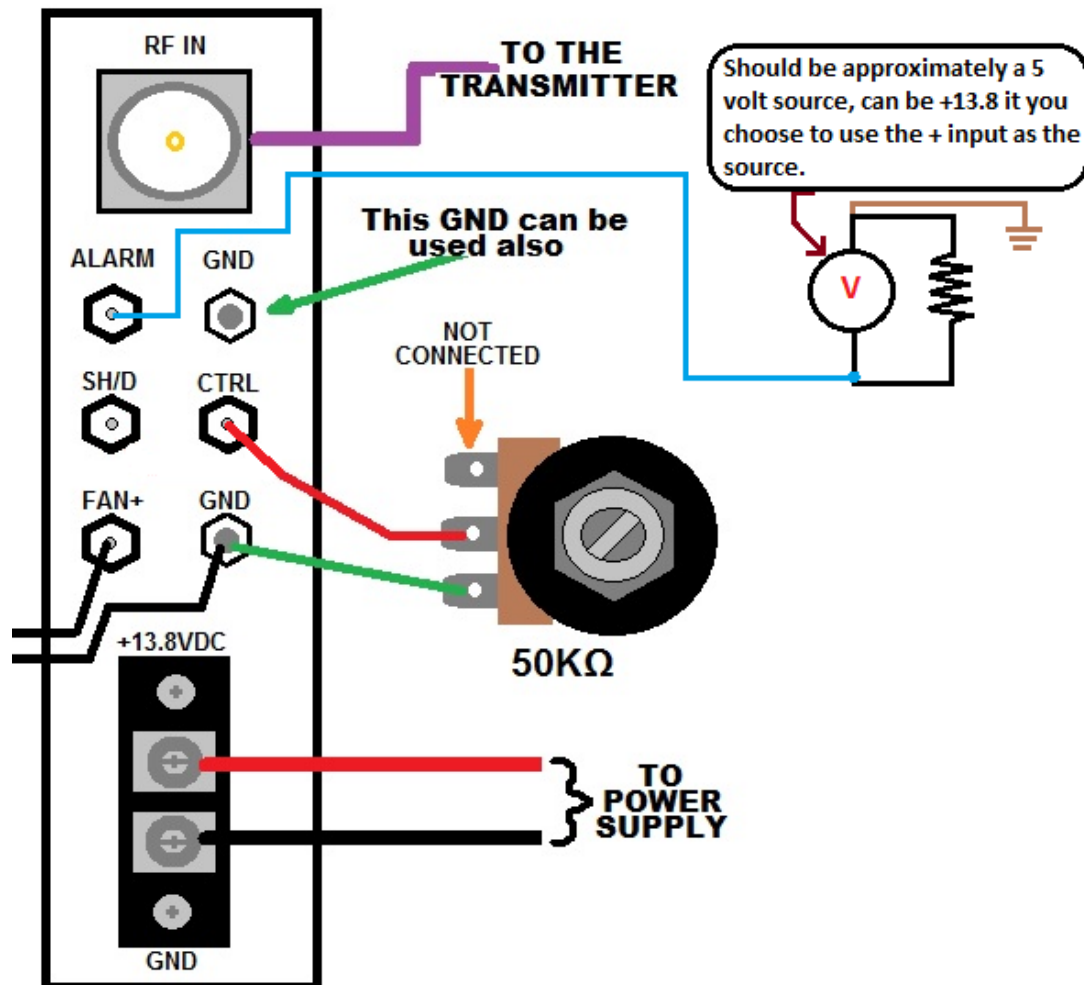


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EXTERNAL POWER ADJUSTMENT



Using a GND pin on the rear of the Amplifier, attach the wiper arm and one of the other leads from a 50 K Ohm potentiometer to the CTRL pin and the GND pin (it does not matter which pin is connected to which lead). After installation of the potentiometer, set the potentiometer for the output needed. After the output is set, each unit must be looked at for a clean spectral analysis. The Customer must ensure that spectral purity is maintained. A spectrum analyzer or a service monitor must be used if turning the output power down.

Note, after the customer sets the output, he can note the value of the resistance of the potentiometer across the two pins that were connected, and install a fixed value resistor to keep costs down if needed.

5-Pack P5 Series VHF

Fully modular and space efficient

General Specifications

- Frequency Range: 136-174 MHz (DE)
- 50 Watts Output Power
- Input Power – set at the factory – see the table below
- Spurious & harmonics meet FCC requirements
- Input/output Impedance: 50 Ohm
- Input/Output RF Connectors: type “N” female
- Operating Voltage: 13.8 VDC (nominal)
- DC Current: 10 A (nominal); 12 A (maximum)
- DC Connector: terminal block, screws # 6-32
- Load VSWR protection; overheat protection
- Indicator LEDs: DC on, low output, high VSWR, high temperature
- Control/Monitoring Connectors: power setup, common alarm signal
- Cooling Method: fan forced air over heat sink; fan is on constantly
- Operating Temp Range: -30°C to +60°C
- Storage and Transport Temp: -40°C to +70°C
- Humidity: 80% at +40°C (non-condensing)
- Altitude: 10,000 ft. maximum



Power Input/output Range

Model Description	Required Power Input
P5-R1DE1-C7-001	100-200 mW
P5-R2DE1-C7-001	200-500 mW
P5-R5DE1-C7-001	500 mW – 1 W
P5-1DE1-C7-001	1-2 W
P5-2DE1-C7-001	2-5 W
P5-5DE1-C7-001	5-10 W
P5-10DE1-C7-001	10-20 W

Dimensions and Weight

- Dims: 7”H x 19”D x 3.4” W
- Weight: 10 lbs. nominal

Optional Features Available

- FPR-5 Rack

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Headquarters
100 High Grove Blvd.
Glendale Heights, IL 60139
P 847 908 5400
F 847 908 5408

Defense Solutions
1803 Mt. Rose Ave., Bldg. B
York, PA 17403
P 717 235 5474
F 717 227 4444

www.crescendrf.com
sales@crescendrf.com

5-Pack P10 Series VHF

Fully modular and space efficient



General Specifications

- Frequency Range: 136-174 MHz (DE)
- 100 Watts Output Power
- Input Power – set at the factory – see the table below
- Spurious & harmonics meet FCC requirements
- Input/output Impedance: 50 Ohm
- Input/Output RF Connectors: type 'N' female
- Operating Voltage: 13.8 VDC (nominal)
- DC Current: 19 A (nominal); 23 Amperes (maximum)
- DC Connector: terminal block, screws # 6-32
- Load VSWR protection; overheat protection
- Cooling Method: fan forced air over heat sink; fan is on constantly
- Indicator LEDs: DC on, low output, high VSWR, high temperature
- Control/Monitoring connectors: power setup, common alarm signal
- Operating Temp Range: -30°C to +60°C
- Storage and Transport Temp: -40°C to +70°C
- Humidity: 80% at +40°C (non-condensing)
- Altitude: 10,000 ft. maximum

Power Input/output Range

Model Description	Required Power Input
P10-R1DE1-C7-001	100-200 mW
P10-R2DE1-C7-001	200-500 mW
P10-R5DE1-C7-001	500 mW – 1 W
P10-1DE1-C7-001	1-2 W
P10-2DE1-C7-001	2-5 W
P10-5DE1-C7-001	5-10 W
P10-10DE1-C7-001	10-20 W
P10-20DE1-C7-001	20-50 W

Dimensions and Weight

- Dimensions: 7" H x 19" D x 3.4" W
- Weight: 10 lbs. nominal

Optional Features Available

- FPR-5 Rack

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Headquarters
100 High Grove Blvd.
Glendale Heights, IL 60139
P 847 908 5400
F 847 908 5408

Defense Solutions
1803 Mt. Rose Ave., Bldg. B
York, PA 17403
P 717 235 5474
F 717 227 4444

www.crescendrf.com
sales@crescendrf.com

5-Pack P5 Series UHF

Fully modular and space efficient



General Specifications

- Frequency Range: 403-450 MHz (UL), 450-512 MHz (UH)
- 50 Watts Output Power
- Input Power – set at the factory – see the table below
- Spurious & harmonics meet FCC requirements
- Input/output Impedance: 50 Ohm
- Input/Output RF Connectors: type “N” female
- Operating Voltage: 13.8 VDC (nominal)
- DC Current: 11 A (nominal); 13 A (maximum)
- DC Connector: terminal block, screws # 6-32
- Load VSWR protection; overheat protection
- Indicator LEDs: DC on, low output, high VSWR, high temperature
- Control/Monitoring Connectors: power setup, common alarm signal
- Cooling Method: fan forced air over heat sink; fan is on constantly
- Operating Temp Range: -30°C to +60°C
- Storage and Transport Temp: -40°C to +70°C
- Humidity: 80% at +40°C (non-condensing)
- Altitude: 10,000 ft. maximum

Power Input/output Range

Model Description*	Required Power Input
P5-R1XX-C7-001	100-200 mW
P5-R2XX1-C7-001	200-500 mW
P5-R5XX1-C7-001	500 mW – 1 W
P5-1XX1-C7-001	1-2 W
P5-2XX1-C7-001	2-5 W
P5-5XX1-C7-001	5-10 W
P5-10XX1-C7-001	10-20 W

*XX-Insert the letter definition for the frequency range chosen

Dimensions and Weight

- Dimensions: 7”H x 19”D x 3.4” W
- Weight: 10 lbs. nominal

Optional Features Available

- FPR-5 Rack

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Headquarters
100 High Grove Blvd.
Glendale Heights, IL 60139
P 847 908 5400
F 847 908 5408

Defense Solutions
1803 Mt. Rose Ave., Bldg. B
York, PA 17403
P 717 235 5474
F 717 227 4444

www.crescendrf.com
sales@crescendrf.com

5-Pack P10 Series UHF

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General Specifications

- Frequency Range: 403-450 MHz (UL), 450-512 (UH)
- 100 Watts Output Power
- Input Power – set at the factory – see the table below
- Spurious & harmonics meet FCC requirements
- Input/output Impedance: 50 Ohm
- Input/Output RF Connectors: type 'N' female
- Operating Voltage: 13.8 VDC (nominal)
- DC Current: 21 A (nominal); 26 Amperes (maximum)
- DC Connector: terminal block, screws # 6-32
- Load VSWR protection; overheat protection
- Cooling Method: fan forced air over heat sink; fan is on constantly
- Indicator LEDs: DC on, low output, high VSWR, high temperature
- Control/Monitoring connectors: power setup, common alarm signal
- Operating Temp Range: -30°C to +60°C
- Storage and Transport Temp: -40°C to +70°C
- Humidity: 80% at +40°C (non-condensing)
- Altitude: 10,000 ft. maximum

Power Input/output Range

Model Description*	Required Power Input
P10-R1XX1-C7-001	100-200 mW
P10-R2XX1-C7-001	200-500 mW
P10-R5XX1-C7-001	500 mW – 1 W
P10-1XX1-C7-001	1-2 W
P10-2XX1-C7-001	2-5 W
P10-5XX1-C7-001	5-10 W
P10-10XX1-C7-001	10-20 W
P10-20XX1-C7-001	20-50 W

*XX-Insert the letter definition for the frequency range chosen

Dimensions and Weight

- Dims: 7”H x 19”D x 3.4”W
- Weight: 10 lbs. nominal

Optional Features Available

- FPR-5 Rack

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Headquarters
100 High Grove Blvd.
Glendale Heights, IL 60139
P 847 908 5400
F 847 908 5408

Defense Solutions
1803 Mt. Rose Ave., Bldg. B
York, PA 17403
P 717 235 5474
F 717 227 4444

www.crescendrf.com
sales@crescendrf.com

5-Pack P8 Series 700/800 MHz

Fully modular and space efficient



General Specifications

- Frequency Range: 764-870 MHz
- 80 Watts Output Power
- Input Power – set at the factory – see the table below
- Spurious & harmonics meet FCC requirements
- Input/output Impedance: 50 Ohm
- Input/Output RF Connectors: type 'N' female
- Operating Voltage: 13.8 VDC (nominal)
- DC Current: 18 A (nominal); 24 Amperes (maximum)
- DC Connector: terminal block, screws # 6-32
- Load VSWR protection; overheat protection
- Cooling Method: fan forced air over heat sink; fan is on constantly
- Indicator LEDs: DC on, low output, high VSWR, high temperature
- Control/Monitoring connectors: power setup, common alarm signal
- Operating Temp Range: -30°C to +60°C
- Storage and Transport Temp: -40°C to +70°C
- Humidity: 80% at +40°C (non-condensing)
- Altitude: 10,000 ft. maximum

Power Input/output Range

Model Description	Required Power Input
P8-R1JK1-C7-001	100-200 mW
P8-R2JK1-C7-001	200-500 mW
P8-R5JK1-C7-001	500 mW – 1 W
P8-1JK1-C7-001	1-2 W
P8-2JK1-C7-001	2-5 W
P8-5JK1-C7-001	5-10 W
P8-10JK1-C7-001	10-20 W
P8-20JK1-C7-001	20-50 W

Dimensions and Weight

- Dimensions: 7”H x 19”D x 3.4”W
- Weight: 10 lbs. nominal

Optional Features Available

- FPR-5 Rack

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Headquarters
100 High Grove Blvd.
Glendale Heights, IL 60139
P 847 908 5400
F 847 908 5408

Defense Solutions
1803 Mt. Rose Ave., Bldg. B
York, PA 17403
P 717 235 5474
F 717 227 4444

www.crescendrf.com
sales@crescendrf.com

5-Pack P8 Series 900 MHz

Fully modular and space efficient



890-942 MHz 80 Watts Output Power

- Frequency Range: 890-942 MHz
- 80 Watts Output Power
- Input Power – set at the factory – see the table below
- Spurious & harmonics meet FCC requirements
- Input/output Impedance: 50 Ohm
- Input/Output RF Connectors: type 'N' female
- Operating Voltage: 13.8 VDC (nominal)
- DC Current: 18 A (nominal); 24 Amperes (maximum)
- DC Connector: terminal block, screws # 6-32
- Load VSWR protection; overheat protection
- Cooling Method: fan forced air over heat sink; fan is on constantly
- Indicator LEDs: DC on, low output, high VSWR, high temperature
- Control/Monitoring connectors: power setup, common alarm signal
- Operating Temp Range: -30°C to +60°C
- Storage and Transport Temp: -40°C to +70°C
- Humidity: 80% at +40°C (non-condensing)
- Altitude: 10,000 ft. maximum

Power Input/output Range

Model Description	Required Power Input
P8-R1L1-C7-001	100-200 mW
P8-R2L1-C7-001	200-500 mW
P8-R5L1-C7-001	500 mW – 1 W
P8-1L1-C7-001	1-2 W
P8-2L1-C7-001	2-5 W
P8-5L1-C7-001	5-10 W
P8-10L1-C7-001	10-20 W
P8-20L1-C7-001	20-50 W

Dimensions and Weight

- Dimensions: 7”H x 19”D x 3.4”W
- Weight: 10 lbs. nominal

Optional Features Available

- FPR-5 Rack

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Headquarters
100 High Grove Blvd.
Glendale Heights, IL 60139
P 847 908 5400
F 847 908 5408

Defense Solutions
1803 Mt. Rose Ave., Bldg. B
York, PA 17403
P 717 235 5474
F 717 227 4444

www.crescendrf.com
sales@crescendrf.com

P35 Series VHF Power Amplifier

General Specifications

150-174 MHz 350 Watts Output Power

- Frequency Range: 150-174 MHz
- Duty Cycle: 100%
- FM/constant envelope modulation
- Operating Voltage: 110 or 220 VAC
- Current Consumption: 10 A (max) @ 110 VAC
- Spurious & harmonics exceeds FCC requirements
- Input/output Impedance: 50 ohms (Nominal)
- Load VSWR Tolerance: full power, sustained operation 1:5:1 or better, VSWR protected above 2:5:1
- Indicator LEDs: power on, exciter drive, high temp, high VSWR, high input, low output
- Input/output Connector: type 'N' female
- DB15 includes alarm and status pins, power control, and Form C relay output
- Internal isolator included
- Cooling Method: fan forced air over heat sink
- Operating Temp Range: -30°C to +60°C
- Storage and Transport Temp: -40°C to +70°C
- Humidity: 80% at +40°C (non-condensing)



Power Input/output Range

Model Description*	Required Power Input
P35-5E3-PS(2)-C8-001	5-10 W
P35-10E3-PS(2)-C8-001	10-20 W
P35-20E3-PS(2)-C8-001	20-50 W
P35-50E3-PS(2)-C8-001	50-100 W

- Power Output: 350 Watts, set at factory for all models listed above

Dimensions and Weight

- Dims: 5.25"H x 20"D x 19" W
- Weight: 35 lbs

Optional Features Available

- 220 VAC operating voltage

Rev C

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Headquarters
100 High Grove Blvd.
Glendale Heights, IL 60139
P 847 908 5400
F 847 908 5408

Defense Solutions
1803 Mt. Rose Ave., Bldg. B
York, PA 17403
P 717 235 5474
F 717 227 4444

www.crescendrf.com
sales@crescendrf.com

P25 Series UHF Power Amplifier

General Specifications

UHF 250 Watts Output Power

- Frequency Range: 406.1-420 MHz (GA); 450-454 MHz, 456-462.5375 MHz, 462.7375-467.5375 MHz, 467.7375-470 MHz (HA)
- Operating Voltage: 110 VAC
- Duty Cycle: 100%
- FM/constant envelope modulation
- Current Consumption: 10 A (max) @ 110 VAC
- Spurious & harmonics exceeds FCC specifications
- Input/output Impedance: 50 ohms (Nominal)
- Load VSWR Tolerance: full power, sustained operation, 1.5:1 or better, VSWR protected above 2.5:1
- Indicator LEDs: power on, exciter drive, high temp, high VSWR, high input, low input
- Input/output Connector: type 'N' female
- DB15 includes alarm and status pins, power control, and Form C relay output
- Internal isolator included
- Cooling Method: fan forced air over heat sink
- Operating Temp Range: -30°C to +60°C
- Storage and Transport Temp: -40°C to +70°C
- Humidity: 80% at +40°C (non-condensing)



Power Input/output Range

Model Description	Frequency	Required Power Input
P25-10GA3-PS(x)-C8-001	406.1-420 MHz	10-20 W
P25-20GA3-PS(x)-C8-001	406.1-420 MHz	30-40 W
P25-R2HA3-PS(x)-C8-001	450-470 MHz	0.2-0.5 W
P25-R5HA3-PS(x)-C8-001	450-470 MHz	0.5-1 W
P25-1HA3-PS(x)-C8-001	450-470 MHz	1-2 W
P25-2HA3-PX(x)-C8-001	450-470 MHz	2-5W
P25-5HA3-PS(x)-C8-001	450-470 MHz	5-10 W

Note: x=1 denotes 110 VAC, x=2 denotes 220 VAC

- Power Output: 250 Watts, set at factory, with power control for all models listed above

Dimensions and Weight

- Dims: 5.25" H x 20" D x 19" W
- Weight: 25 lbs.

Optional Features Available

- 220 VAC operating voltage

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Headquarters
100 High Grove Blvd.
Glendale Heights, IL 60139
P 847 908 5400
F 847 908 5408

Defense Solutions
1803 Mt. Rose Ave., Bldg. B
York, PA 17403
P 717 235 5474
F 717 227 4444

www.crescendrf.com
sales@crescendrf.com

Crescend RTK-450 Amplifier

Key Features

- Gain Control Loop

Specifications

- Frequency Range: 450-470 MHz
- Gain 11 dB (nominal)
- Input power 0.4-2.0 W (nominal), 3 W (maximum)
- Spurious & harmonics meets FCC requirements
- Input/output Impedance: 50 ohms
- Input/output Connector: type "N" female
- Operating Voltage: +13.8 VDC (nominal), 17.5 VDC (maximum)
- DC current consumption: 8 Amperes (maximum)
- DC Connector: terminal block, screws # 6-32
- Load VSWR protection; overheat protection
- Indicator LEDs: DC on, low output, high VSWR, high temp
- Control/Monitoring connectors: power setup, common alarm signal
- Cooling Method: fan forced air over heat sink; fan is on constantly
- Operating Temp Range: -30°C to +60°C
- Storage and Transport Temp: -40°C to +70°C
- Humidity: 80% at +40°C (non-condensing)
- Altitude: 10,000 ft. maximum

Dimensions and Weight

- Dimensions: 7"H x 6"D x 19" W
- Weight: 10 lbs.
- 19" Rack Mount



Description

The Crescend RTK-450 power amplifier is designed to work with the John Deere UHF RTK system. With 11 dB of gain, the amplifier boosts the power level of the standard RTK system to extend range and compensate for trees, foliage and other objects. LED monitoring is provided as well as I/O connections. These may be used to remotely monitor PA status as well as remotely place PA in active or bypass mode. Should the PA experience a DC power loss or go into thermal protective shutdown, the PA will automatically go into bypass mode, keeping the site on the air until it is convenient to troubleshoot.

Rev B

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100 High Grove Blvd.
Glendale Heights, IL 60139
P 847 908 5400
F 847 908 5408

Defense Solutions

1803 Mt. Rose Ave., Bldg. B
York, PA 17403
P 717 235 5474
F 717 227 4444

www.crescendrf.com
sales@crescendrf.com

P10-1FA4-C5-001 Power Amplifier

General Specifications

- Frequency Range: 220-222 MHz (FA)
- Output Power 100 Watts
- Input Power 1-4 W
- Spurious & harmonics meet FCC requirements
- Keying time 400 us (typical)
- Input/output Impedance: 50 Ohm
- Input/Output RF Connectors: type 'N' female
- Operating Voltage: 48 VDC (nominal)
- DC Current 3.7 A (nominal); 4.7 A (maximum)
- DC Connector: terminal block, screws # 6-32
- Load VSWR protection; overheat protection
- Cooling Method: fan forced air over heat sink; fan is on, when over +65°C at heat sink
- Indicator LEDs: DC on, low output, high VSWR, high temperature
- Control/Monitoring connectors: power setup, common alarm signal
- Operating Temp Range: -30°C to +60°C
- Storage and Transport Temp: -40°C to +70°C
- Humidity: 80% at +40°C (non-condensing)



Power Input/output Range

Model Description	Required Power Input
P10-1FA2-C5-001	1-4 W

Dimensions and Weight

- P10-1FA4-C5-001
- Dims: 7"H x 6"D x 19"W
- Weight: 10 lbs.

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Headquarters
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Glendale Heights, IL 60139
P 847 908 5400
F 847 908 5408

Defense Solutions
1803 Mt. Rose Ave., Bldg. B
York, PA 17403
P 717 235 5474
F 717 227 4444

www.crescendrf.com
sales@crescendrf.com