

BluSDR-30

BluSDR™ 2W Radio Module

Overview:

As part of the DTC BluSDR™ family of products, BluSDR-30 is designed for a wide range of UxV applications, and is particularly suitable for small drone platforms operating in medium range applications up to 30km in range.

Based around DTC's SOL8SDR (software defined radio) architecture and offering a full 2W of output power, BluSDR-30 includes MANET IP Mesh capability to allow up to 144 nodes in a self-healing network using DTC's industry leading MeshUltra-X™ waveform.

BluSDR-30 includes a rich set of interface options including Ethernet, serial and dual USB as well as an on-board headset audio interface. BluSDR-30 Clamshell and Plain boxed variants also offer the option of USB-C powering direct from a suitable end user device or USB-C battery (USB PD compliant).



Features and Benefits:

- 2W total output power (2x1W COFDM transceivers)
- Ideal for medium range applications up to 30km
- Support for SBUS and MAVLink protocols
- USB-C power option compliant with USB PD (Clamshell and Plain variants)
- RNDIS support for Ethernet over USB
- Ethernet and RS-232 data connectivity
- MeshUltra™ MANET waveforms included to support up to 144 nodes in a self forming self healing Mesh network
- Optional AES128/256 encryption (accredited to FIPS140-2 for MeshUltra™ waveforms)
- USB support for peripherals such as 3G/4G/Wi-Fi dongles
- 128GB built-in storage
- Compact packaging with EMC screening included
- Low power consumption, typically 12W IP Mesh
- Small size and weight
- Available as a Clamshell Core, or a Plain or Robust boxed module

Product Information:

Product Codes

| | |
|-----------------------|---|
| BluSDR-30-xxxxxy-C | BluSDR-30 2x1W Clamshell Core |
| BluSDR-30-xxxxxy-C-NC | BluSDR-30 2x1W Clamshell Core (no cables) |
| BluSDR-30-xxxxxy-B | BluSDR-30 2x1W Plain Boxed |
| BluSDR-30-xxxxxy-R | BluSDR-30 2x1W Robust Boxed |

xxxxxy denotes frequency, see over

Clamshell Product Includes

| | |
|------------|---|
| CA3740 | 5-way JST to USB-A (f) cable |
| CA3867 | 8-way JST to RJ45 Ethernet |
| CA4237 x 2 | MMCX RA (m) to SMA (f) cable 200mm |
| CA4411 | 4-way JST to 2-way XT60 (m) power cable |

Clamshell Accessories (sold separately)

| | |
|----------|--|
| AP007377 | USB-A (m) to USB micro (m) cable |
| AP010399 | USB-A (m) to USB-C (m) cable |
| CA0001 | 3-way Lemo (m) to 9-way D-sub (f) data cable |
| CA0002 | 4-way Lemo (m) to banana plugs power cable |
| CA2095 | 3-way JST to 3-way Lemo (f) data cable |
| CA3742 | 5-way JST to USB micro (f) cable |
| CA3866 | 6-way JST to audio phono cable |
| CA3900 | 4-way JST to 4-way Lemo (f) power cable |
| CA3752 | MMCX (m) to SMA (f) cable 100mm |
| CA3903 | MMCX (m) to SMA (f) cable 200mm |
| CA3865 | 4-way JST to banana plugs power cable |
| CA3983 | 5-way JST to USB Ethernet adaptor |

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Product Information (cont.):

Plain Boxed Product Includes

| | |
|--------|--|
| CA0002 | 4-way Lemo to banana plugs power cable |
| CA3172 | 12V 6.67A 80W PSU with Lemo |

Plain Boxed Accessories (sold separately)

| | |
|----------|--|
| AP007377 | USB-A (m) to USB micro (m) cable |
| AP010399 | USB-A (m) to USB-C (m) cable |
| CA3978 | 6-way Lemo to free end GPIO/RS-232 cable |
| CA3986 | 6-way Lemo to 9-way D-sub (f) RS-232 cable |

Robust Boxed Product Includes

| | |
|--------|--|
| CA4171 | 7-way Fischer to DC power and Ethernet cable |
|--------|--|

Robust Boxed Accessories (sold separately)

| | |
|--------|---|
| CA4173 | 7-way Fischer to USB-A (f) and GPIO free end cable |
| CA4174 | 7-way Fischer to USB-A (f) cable |
| CA4339 | 9-way Fischer to RS-232 D-sub (f) and 2x 3.5mm audio jack cable |

Technical Specification:

IO (Clamshell Core)

| | |
|---------------------------|--|
| RF COFDM transceiver 1 | MMCX 50Ω (f) |
| RF COFDM transceiver 2 | MMCX 50Ω (f) |
| GPIO and power out | 6-way 1mm JST |
| Gigabit Ethernet | 8-way 1mm JST |
| USB1 control and download | 5-way 1mm JST |
| USB2 control and download | USB-C (PD) 5-way 1mm JST |
| Power input | 4-way 2mm JST USB2 with power delivery (USB-C PD) |
| Analogue audio | 6-way 1mm JST |
| RS-232 | 3-way 1mm JST |

IO (Plain Boxed)

| | |
|---------------------------|---|
| RF COFDM transceiver A | SMA 50Ω (f) |
| RF COFDM transceiver B | SMA 50Ω (f) |
| Power input | 4-way Lemo (f) USB2 with power delivery (USB PD) |
| Gigabit Ethernet | RJ45 |
| USB1 control and download | USB Type-A |
| USB2 control and download | USB Type-C |
| Analogue audio | 3.5mm jack |
| GPIO and RS-232 serial | 6-way Lemo (f) |

IO (Robust Boxed)

| | |
|--------------------------------------|-------------------|
| RF COFDM transceiver A | TNC 50Ω (f) |
| RF COFDM transceiver B | TNC 50Ω (f) |
| Power input Gigabit Ethernet | 8-way Fischer (f) |
| USB host GPIO | 7-way Fischer (f) |
| Analogue audio RS-232 serial data | 9-way Fischer (f) |

COFDM Transceivers

| | |
|---------------------|--|
| Power | 1W (+30dBm) per output, 2W total |
| Power step | 0.25dB incremental control |
| Tuning step | 125kHz |
| Bandwidth | 1.25/1.5/1.75/2.5/3.0/3.5/4.0/5.0MHz (MeshUltra-M/-80/-X) 6.0/7.0/8.0/10.0/12.0/14.0/16.0/20.0MHz (MeshUltra-M/-80) |
| Mesh capacity | Up to 87Mbps MeshUltra |
| Carrier modulation | BPSK/QPSK/16QAM/64QAM (adaptive) |
| FEC rate | FEC1/2, FEC2/3 (adaptive) |
| Receive sensitivity | -98dBm (BW 2.5MHz/QPSK 1/2) |

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Technical Specification (cont.):

Audio

| | |
|------------------------------|--|
| Interface | Analogue mic/head with bias |
| Compression | G726 32kbit audio 8kHz sampling and mute |
| Input level (600Ω impedance) | 0.25mV to 1.14V RMS |
| Output level | 32mW RMS max into a 16Ω load |

Data

| | |
|--------------------|---|
| Data configuration | 1k2 to 115k2, 7/8 bit, no/odd/even parity |
| Data interface | RS-232 or USB peripherals |

Encryption

| | |
|----------|---|
| Standard | DES |
| Licensed | *AES128/256 (subject to export control) |

Storage

| | |
|--------|------------------------|
| Medium | Internal microSD 128GB |
|--------|------------------------|

Physical (Clamshell Core)

| | |
|------------|--------------------|
| Dimensions | 95mm x 60mm x 15mm |
| Weight | 110g |

Physical (Plain Boxed)

| | |
|------------|--|
| Dimensions | 150mm (160mm incl. connectors) x 75mm x 24mm |
| Weight | 462g approx. |

Physical (Robust Boxed)

| | |
|------------|--|
| Dimensions | 157mm (165mm incl. mounting) x 75mm x 21mm |
| Weight | 430g approx. |

Power

| | |
|---------------------------|---|
| DC input | 8-17V overvoltage protected up to 30V |
| Power consumption | 12W RMS @13V 25% data occupancy 18W RMS @13V 100% data occupancy |
| Inrush current (power up) | 10A @13V |

Environment

| | |
|------------------------|--|
| Temperature range | -20°C to +55°C with additional cooling for clamshell variant |
| Humidity | Less than 85% non-condensing |
| Sealing (Robust boxed) | IP68 |

Frequency

| | |
|--------|--------------|
| 120170 | 1.20-1.70GHz |
| 178229 | 1.78-2.29GHz |
| 198270 | 1.98-2.70GHz |
| 440500 | 4.40-5.00GHz |
| 550600 | 5.50-6.00GHz |

License Options

Includes DTC MeshUltra™ MANET Mesh capability as standard. See MeshUltra family brochure for more details.

| | |
|----------------|--|
| BluSDR-IAS | Interference Avoidance Scheme for Mesh |
| †BLUSDR-P2MP | Point-to-Multipoint System for Mesh |
| BluSDR-RANGING | Ranging Measurements for BluSDR Radios |
| *AES128 | AES128 Cryptography Licence |
| *AES256 | AES256 & AES128 Cryptography Licence |

* Accredited to FIPS140-2 for MeshUltra™ waveforms

† Enables split frequency TX/RX operation for special applications. Contact DTC for more information.

Encrypted products are subject to regulatory export controls

For further information contact your Sales Account Manager, one of our Regional Sales Offices, or email solent.info@domotactical.com

AMERICA
T: +1 571 563 7077

UK
T: +44 1489 566 750

DENMARK
T: +45 8791 8100

UAE
T: +971 0 44 53 72 01

SINGAPORE
T: +65 6339 0508

AUSTRALIA
T: +61 8 8305 0311