



S-BAND TELEMETRY TRANSMITTER

TXS

APPLICATIONS

- Video, Telemetry and Data Links
- Avionics and Marine applications
- UAVs and missiles

KEY FEATURES

- full S-Band coverage: 2200 to 2400 MHz
- 6 W output power (0.1 W to 6 W programmable)
- modulation and power returns isolated from chassis
- fully programmable via serial interface
- industrial temperature range / altitude unlimited
- ruggedized / shock proof design for harsh environments
- premodulation filter programmable up to 10 MHz [up to 20 MBit/s NRZ]
- software selectable data input: analog / TTL / RS422 (isolated from power & chassis)
- built-in real-time status monitor: forward & reflected power, supply current & voltages, base plate & PCB temperature, BITE results



Dimensions
76.2 x 50.8 x 20 mm

SPECIFICATIONS

GENERAL

Description FM S-Band Telemetry Transmitter
Device Type TXS

RF SECTION

Frequency Range (version S3) 2200 to 2400 MHz
Synthesizer Step Width 100 kHz
Antenna Output Impedance 50 Ω (max.VSWR = 1.5:1)
Reference Oscillator Stability 5 ppm (1 ppm typ.)
RF power output (version P6) 6 W
(version P5) 5 W (none-isolated, low-current)
(version P10) 10 W (power supply none-isolated)

MODULATION

Modulation Type true FM
Modulation Sensitivity adjustable
FM Deviation ±1 MHz to ±6 MHz
Freq.Response (version -6) 6 MHz (-1 dB)
(version -10) 10 MHz (-1 dB) [fixed to 10MHz]
low-end Freq.Response 50 Hz (-3 dB)
Digital Modulation Input TTL / RS422
Analog Input Range 0.5 to 5 Vpp (programmable)
Analog Input Impedance 10 kΩ
Modulation Sense polarity programmable
Isolation against Chassis >1 MΩ

SYSTEM CHARACTERISTICS

Tuning Method PLL Synthesizer
Temperature Compensation digital
Communication RS232 (TTL level)

PROTECTION SYSTEM

Antenna Mismatch Protection fully operational up to 2:1 VSWR
max.; no damage into infinite VSWR,
all phases (software controlled)
Overtemperature Protection indestructible (automatic derating) *

SYSTEM I/O

Status Output H=O.K. / L=warning/error
RF Level Monitor Output from internal directional coupler
(forward port value)
user function programmable
Multi Function I/O H(open)=on / L=standby
Standby Input

POWER SUPPLY

Supply Voltage 10 to 36 Vdc
Supply Current (6 W version, typ.) 1.0 A @ 28 V / 2.4 A @ 12 V
Supply Current (5 W none-isolated) 750mA @ 28 V (special version P5)
Reverse Polarity Protection max. 47 Vdc (no time limit)
Isolation against Chassis >1 MΩ

ESD PROTECTION

Peak Voltage (IEC 1000-4-2) ± 8 kV (contact discharge)
Peak Voltage (MIL 883-3015.7) ± 15 kV
Peak Current (Supply Voltage) 100 A (8/20 μs)
Peak Current (all other I/O pins) 20 A (8/20 μs)

ENVIRONMENTAL

Operational Temperature -40°C to +85°C (case temp.) *
Humidity ≤ 95% RH
Altitude unlimited
Vibration (random) 0.1 g²/Hz (20 Hz to 2 kHz)
Vibration (sine) 20 g (20 Hz to 2 kHz)
Shock (½ sine) 100 g peak (11 ms)

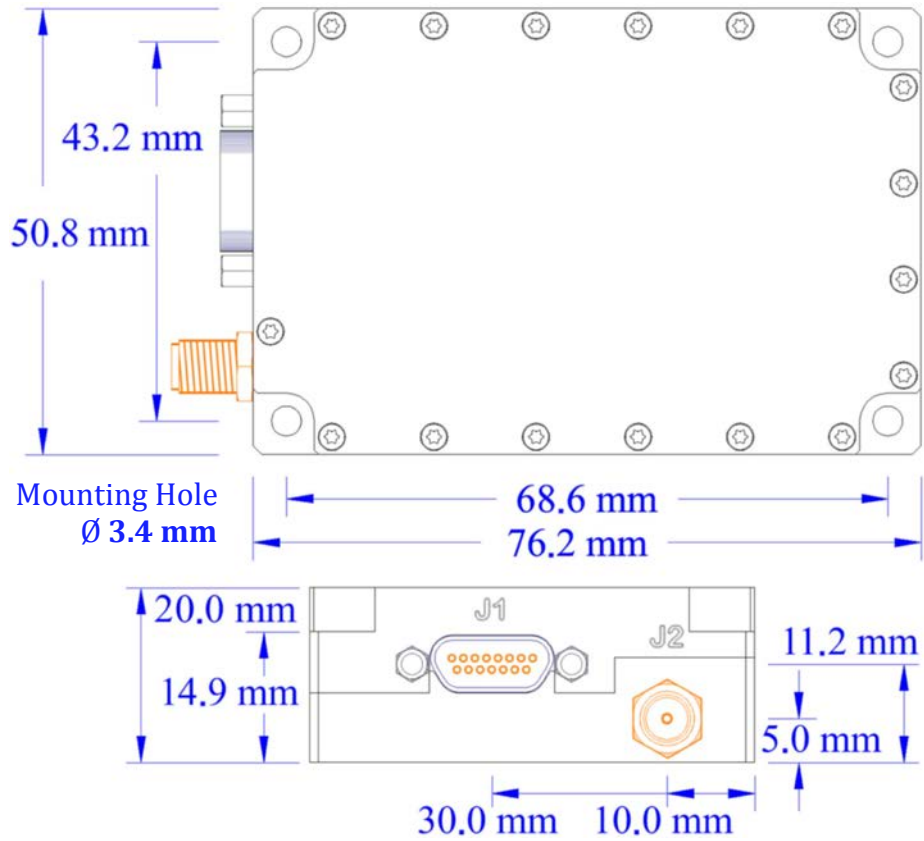
PHYSICAL CHARACTERISTICS

Dimensions (excluding connectors) 76.2 x 50.8 x 20 mm
Weight ~180 g
Supply/Signal Connector (J1) Micro-D MDM15 socket
or PT02E8-4P (special version -4)
Antenna Connector (J2) SMA femal

* the device must be adequately cooled !



OUTLINE DRAWING



System Connector Pin Description (Micro-D MDM15 socket)

Pin 7 + 8	Power Supply Voltage (+)	
Pin 14 + 15	Power Return (-)	
Pin 6 (in)	UART(TTL) RxD (control interface)	
Pin 13 (out)	UART(TTL) TxD (control interface)	
Pin 12 (I/O)	Status Output or Digital I/O (function programmable)	
Pin 11	Digital Signal Return	
Pin 4 (in)	Digital Signal Input	Digital Signal Input (+) (RS422)
Pin 5 (in)	n.c.	Digital Signal Input (-) (RS422)
Pin 3 (in)	Transmit/Standby	
Pin 10 (out)	Power Meter Analog Output	
Pin 9	Analog Signal Return	
Pin 1 (in)	Analog Signal Input	Analog Signal Input (+) (symmetrical)
Pin 2 (in)	n.c.	Analog Signal Input (-) (symmetrical)

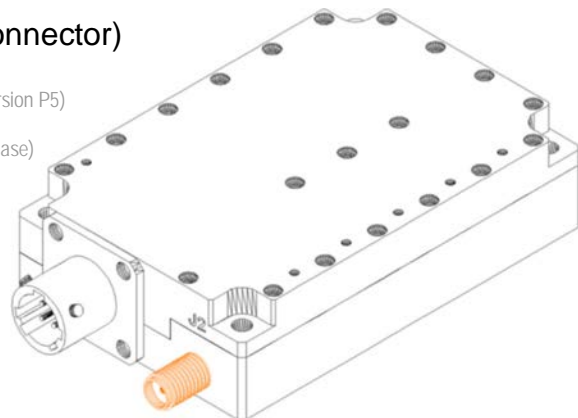
mating connector = Glenair Micro-D Pre-Wired Pigtail MWDM2L-15P-6E5-18B → [datasheet](#)

System Connector (special version PT02E8-4P connector)

Pin A	A*	Power Supply Voltage (+)	
Pin B	D*	Power Return (-)	(connected to case @ version P5)
Pin D	B*	Modulation Signal Input	
Pin C	C*	Modulation Signal Return	(optionally connected to case)

Standard / Alternate* Version

latest version of this datasheet → [txs_datasheet.pdf](#)
mounting instructions → [txs_mounting_information.pdf](#)



Standard Versions

2200 to 2400MHz / 6W / FM ± 6 MHz / Modulation 50Hz-6MHz (12Mbit NRZ)
2200 to 2400MHz / 6W / FM ± 10 MHz / Modulation 50Hz-10MHz (20Mbit NRZ)

TXS-S3-P6-6
TXS-S3-P6-10