XLRSDL1V1 Data Link

New Version 2020

To work from 15-30Km

Range max. 100Km

Transparent Data Link / Mavlink Telemetry

AES 128 Encryption

Vehicles

DRONES, UAV, MULTIROTORS, RPAS, VANT, UAV, AIRCRAFT, HELICOPTERS, UUV, UGV, ROV, USV, ASV, CARS, BOATS, ROBOTS...

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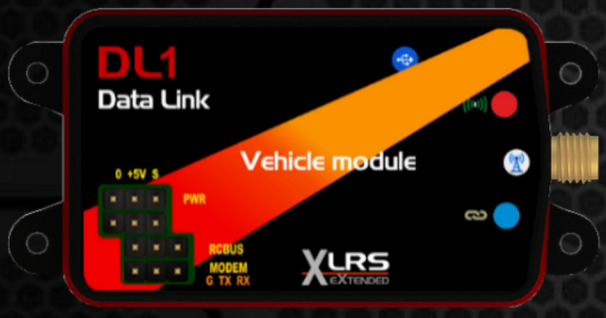
XLRSDL1V1 Data Link

TXDL1 Base Module (Transmitter)
and RXDL1 Vehicle Module (Receiver)

ISM band 863-950Mhz
or 433Mhz

Transparent /Mavlink
Data Link



AES128
Encryption

Professional telemetry radio set formed by DL1TX and DL1RX modules (Transparent Data Link / Telemetry Mavlink) prepared for all types of FPV or DIY projects with 500mW RF Power, -110dBm sensitivity, FHSS, AES128 Encryption to work between 15-30Km(LOS) and with a maximum range of 100km.

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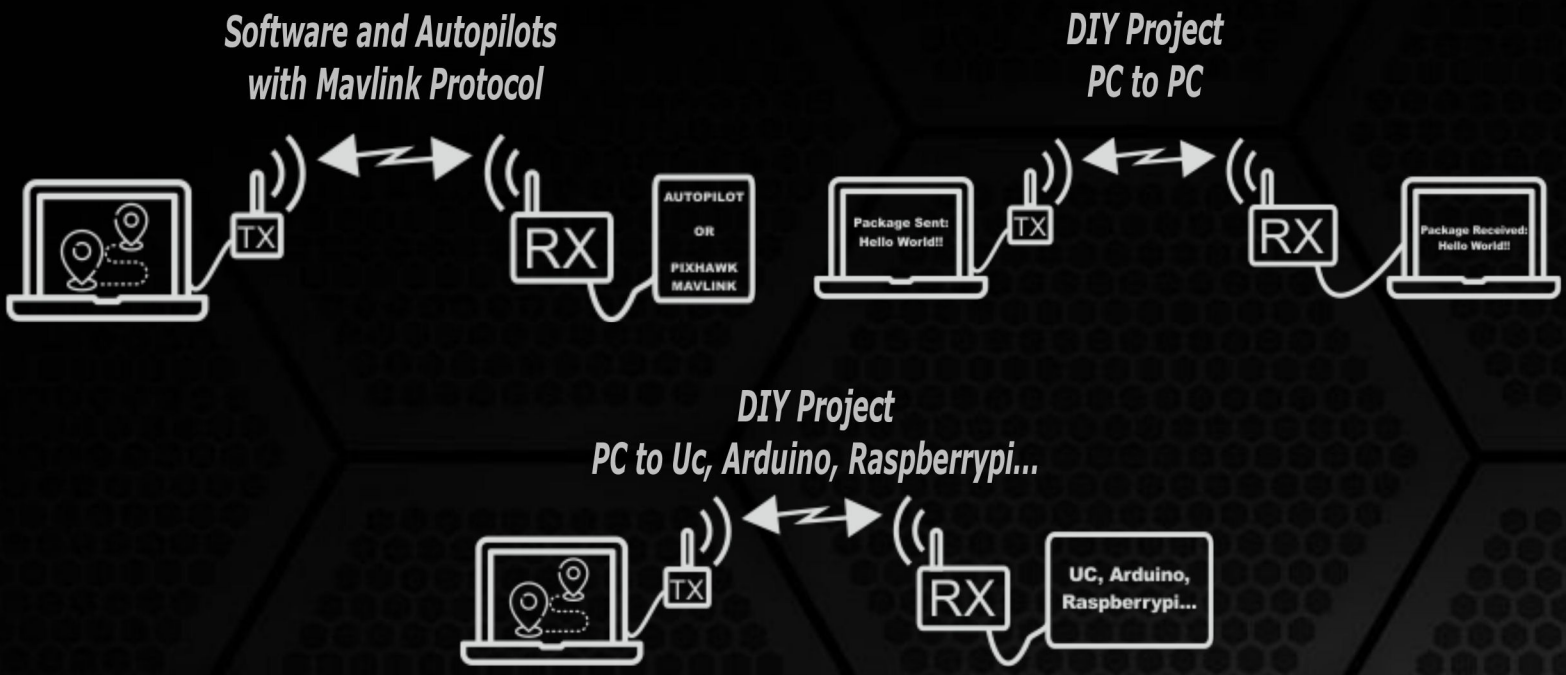
XLRSDL1V1 Data Link



Transparent Data Link / Mavlink Telemetry

Radio set (DL1RX and DL1TX) is a Transparent Data Link/Mavlink Telemetry, it allows you to connect to a autopilot (Pixhawk, APM...) and a computer with software (Mission Planner, QGroundControl...) with Mavlink protocol. Also this set allows it to be used for DIY projects, point-to-point systems, receiving data from special sensors to ground, etc.

The interface for the data in DL1RX is through the serial port TTL 3.3V, "MODEM" (GND, TX, RX) and for DL1TX it can be connected by Micro USB (Micro-B) or by the serial port TTL 3.3V "COM5" (GND, TX, RX).

Radio Encrypted

The system uses AES 128 encrytion, the data of the radiomodem (Data Link Transparent) or Mavlink Telemetry are encrypted.

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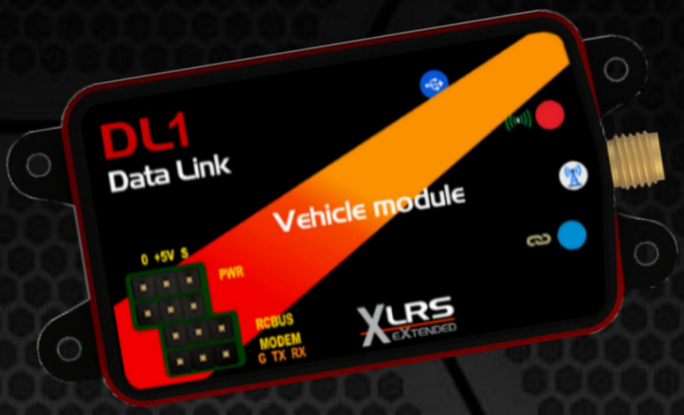
DL1 Vehicle Module

Transparent Data Link Receiver

CE 869Mhz
FCC 902Mhz
Custom...



TECHNICAL SPECIFICATIONS

Range of Work	15-30Km
Maximum Range	100Km
Frequency	CE: 869,4-869,65Mhz. FCC: 902-927,5Mhz. CUSTOM: 433Mhz, others...
Multi Band	RXDL1-89: 863, 866, 868, 902, 915, 950Mhz. RXDL1-43: 433Mhz.
Max RF power	CE: 500mW (+27dBm). FCC: 500mW (+27dBm). CUSTOM: 1W (+30dBm).
Sensitivity max	-110dBm @50kb.
Modulation	50 or 100Kb. FHSS. 2-GFSK.
Stability	TXCO +-1ppm.
Encryption	AES 128 bits.
Voltage	5V. Min 4.5V. Max 6Vcc.
Consumption	Standby 70mA. Max. TX(500mW) 540mA@12mS.
Connectivity:	Telemetry, USB, RCBus, MODEM.
Dimension:	70,78 x 35,75 x 14,78mm.
Weight:	30g (Without ant.) 47g (With ant. 5dBi).

FEATURES

- **1 Micro USB:** Update and configuration.
- **1 RCBUS:** Connect XOSD for serial communication.
- **1 MODEM port:** MAVLINK Telemetry and transparent radio modem.
- **1 Red Led:** TX RF or Transmit packets.
- **1 Blue Led:** Link RF or Received packets.
- **1 Connector antenna RC:** SMA-Female.

MAVLINK protocol and Transparent Data Link:

In the vehicle, connect the "MODEM" port (GND,TX,RX) of RXDL1 receiver to the "TELEM" port of the autopilot (Pixhawk, APM...) or the data port of another device (UC, Arduino, Raspberry...).

Compatible with XLRS devices:

TX: DL1, BTSD1, XPAD2 V3, XPAD3 V3, GCSD4V2...
OSD: XOSDV2, XOSD3, XOSD3-2G4, XOSD3B...

**Some product features are optional.*

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DL1 Base Module

Transparent Data Link Transmitter

CE 869Mhz
FCC 902Mhz
Custom...

TECHNICAL SPECIFICATIONS XLRS RADIO

Range of Work	15-30Km.
Maximum Range	100Km.
Frequency	CE: 869,4-869,65Mhz. FCC: 902-927,5Mhz. CUSTOM: 433Mhz, others...
Multi Band	TXDL1-89: 863, 866, 868, 902, 915, 950Mhz. TXDL1-43: 433Mhz.
Max RF power	CE: 500mW (+27dBm). FCC: 500mW (+27dBm). CUSTOM: 1W (+30dBm).
Sensitivity max	-110dBm @50kb.
Modulation	50 or 100Kb. FHSS. 2-GFSK.
Stability	TXCO +-1ppm.
Encryption	AES 128 bits.
Voltage	5V. Min 4.5V. Max 6Vcc.
Average Consumption	175mA @100Kb/40Hz. 260mA @50Kb/40Hz.
Max. Consumption	450mA @500mW. 850mA @1000mW.
Connectivity	RC, Telemetry, USB, RCBus, Input SPPM, COM5.
Dimensions	59 x 36 x 17mm.
Weight	48g.
Box	Plastic PLA.

Upgradable and Configurable: DMDStudio Soft.

FEATURES

Display OLED Black/White for viewing data.
USB (Micro-B) Mavlink Telemetry / Transparent Data Link, DMDStudio communication and Power.
Red Led TX RF or transmit packets.
Blue Led Link RF or recived packets.
RCBUS Serial Communication XLRS Systems.
COM5 Auxiliar Serial Port, Mavlink Telemetry and Transparent Data Link.
Connector antenna: SMA-Female.

MAVLINK protocol and Transparent Data Link:

On the ground TXDL1 Transmitter sends and receives data via USB or COM5 (TTL 3.3V serial port).

It is compatible with Mission Planner, QGroundControl, DMD_Studio, Terminal Ports, etc.

It can be used in different RC models:

UAV, DRONES, VANT, RPAS, UUV, UGV, ROV, MULTIROTORS, CARS, HELICOPTERS, BOATS, etc.

**Some product features are optional.*

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KITXLRSDL1V1-89

Data Link

CONTENT

1- TXDL1-89, Transmitter, Transparent Data Link / Mavlink Telemetry.

1- RXDL1-89, Receiver, Transparent Data Link / Mavlink Telemetry.

2- ANTGSM900, Omnidirectional antenna 868-928Mhz 5dBi.

ACCESSORIES

2- LAT54_SMAH/SMAM. Cable SMA-Female to SMA-Male, 540mm.

1- CABLE_SERVO_HH. Cable Servo RC Female to Female, 200mm.

1- CABLE_EXT_SERVO_MH. Extensor Cable Servo RC Male to Female, 300mm.

1- CABLE_PX4_RX. Adapted Cable for Pixhawk-RX, 300mm.

1- CABLE_USB/MICROUSB. Cable USB-A Male to Micro USB-B Male, 2m.

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KITXLRSDL1V1-43

Data Link

CONTENT

1- TXDL1-43, Transmitter, Transparent Data Link / Mavlink Telemetry.

1- RXD1-43, Receiver, Transparent Data Link / Mavlink Telemetry.

2- ANTGSM433, Omnidirectional antenna 433Mhz 5dBi.

ACCESSORIES

2- LAT54_SMAH/SMAM. Cable SMA-Female to SMA-Male, 540mm.

1- CABLE_SERVO_HH. Cable Servo RC Female to Female, 200mm.

1- CABLE_EXT_SERVO_MH. Extensor Cable Servo RC Male to Female, 300mm.

1- CABLE_PX4_RX. Adapted Cable for Pixhawk-RX, 300mm.

1- CABLE_USB/MICROUSB. Cable USB-A Male to Micro USB-B Male, 2m.

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XLRSDL1 V1

Manuals & more information

XLRSDL1V1 Manual:

Manual XLRSDL1.

Mavlink Telemetry: Connection and configuration XLRS system (RX and XOSD) with Pixhawk and Mission Planner.

XLRS connection diagrams.

DMDStudio Manual:

Learn more about:

Servos XLRS.
XLRS objects.
XLRS Radio Links and Radio Control. Basics notions.
Range, RSSI, Noise in environments UAV – Drones.
Range Test XLRS.
RF Band ISM-ICM.

* The information and images shown in this datasheet, are only referential and may differ from the final product.

* The ranges shown are estimates and in optimal conditions.

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