

Dry Contact Board (DCB) - Spec



1. Scope

The Dry Contact Board (DCB) is advanced device, based on high-performance MCU and designed for control and interface with all "Dr. Frucht Systems Ltd." laser sensors without PC.

2. Functional Description

The DCB is connected to laser sensor by RS485 half duplex line and support all basic command and function of their communication protocol.

As well as DCB permit easy interface between the laser sensor and any standard security or control system by dry contact input – output.

2.1. Communication

Connector J14 description (see Fig 1.2).

Pin number	Pin description full (half) duplex
1	+Rx (+TxR)
2	-Rx (-TxR)
3	+Tx (NC)
4	-Tx (NC)
5	GND

Jumpers: JP3; JP6; JP7 – Full / Half duplex adjustment. For half duplex JP3 & JP6 are short; JP7 short 2-3 pins : JP5 – Terminator resistor (enabled when short).

Default standard RS485 half duplex.

2.2. Inputs

Input connectors: J15 and J16.

To enable input short any IN# with neighboring GND pin.

Pin description: IN1 – IN5 Hidden Zone (Short – Mask Enable);

IN6 – Reset Laser Sensor;

IN7 – Full Reset Laser Sensor;

IN8 – Not Used.

2.3. Outputs

Output connectors: J18 – J21.

Each output is contact of relay. Max contact rating: 0.3 A @ 125 VAC, 1 A @ 24 VDC;

Pin description:

Pairs: 1.1 – 2.6 detection sectors;

- Each sector is about 26°;
- If relay 1.1 short it mean detection in the sector from 0° to 26°;
- If relay 1.2 short it mean detection in the sector from 26° to 52° etc.;

2.7 Communication status;

2.8 Laser Sensor Errors, such "No IRQ" or "Angle Error".

2.4. Power

The DCB require 12 ±1 VDC.

Current rating of the board (with all relay OFF) at 12 V – 200mA

The max current (with all relay ON) at 12 V – 400mA

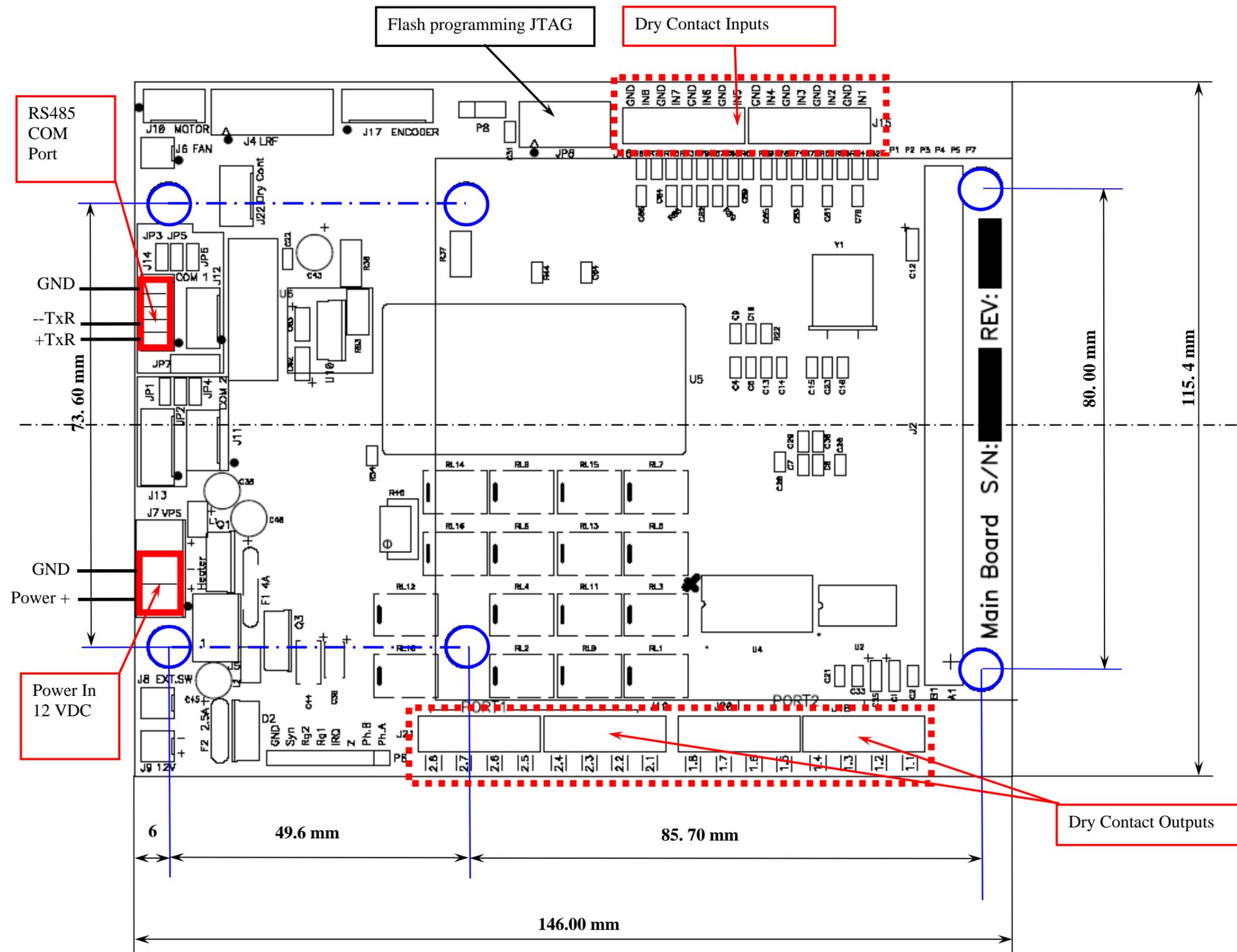


Fig. 1.2 Mechanical and functional description

Power In	11 – 14 VDC @ 4.6 Watt
RS485 COM Port	Full duplex JP3 – Off; JP6 – Off; JP7 – (1-2); Half duplex JP3 – On; JP6 – On; JP7 – (2-3); JP5 – Terminator
Dry Contact Inputs	Short between IN# to GND IN1 – IN5 Hidden Zone (Short – Mask Enable); IN6 – Reset ALS; IN7 – Full Reset ALS; IN8 – Not Used.
Dry Contact Outputs	Max contact rating 0.3 A at 125 VAC, 1 A at 24 VDC; Pairs 1.1 – 2.6 Section of detection; 2.7 Communication; 2.8 Sensor Errors