POWERDRIVE
Operational Description

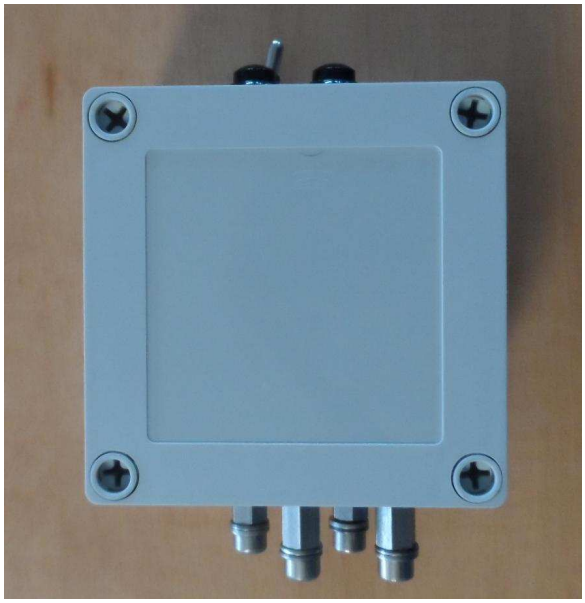
Date: 2013-03-07 **R1**

REV.	DATE	DESCRIPTION	AUTHOR	APPROVED
R1	2013-03-07	First issues	SB	
R2	2013-05-13	Images of label added	SB	

1. Overview

The POWERDRIVE is an output module unit designed to work in conjunction with Sistematica S.p.A RTX family handheld remote controls. It's able to receive commands sent by the user through the remote control in order to switch its outputs on or off. The main feature of POWERDRIVE are listed below:

- Operating supply voltage:12-24 Vdc ±10%
- Operating temperature: -20 ÷ +70 °C
- Current consumption: < 50 mA in stand-by status (no output active)
- Enclosure protection: IP66
- Number of output: 2
- Output technology: solid state high side power MOS-FET
- Maximum current available per output: 5 A
- Maximum total current available for all active output: 10 A
- Number of digital input: up to 4
- Operating frequency: 915 - 918 MHz
- Integrated Antenna
- Type of communication: bidirectional - half duplex
- RF Chipset: NORDIC nRF905 Transceiver
- Integrated D.C. Contactor



2. Operational description

The POWERDRIVE is dedicate to the remote control of DC electrical engine which can be directly connected to the device.
Thanks to the integrated DC Contactors the POWERDRIVE is able to drive the engine CW or CCW according with the button pushed on the handheld control.

A pairing procedure allow the user to register its remote control as the unique device able to give commands to POWERDRIVE which will save the unique id of the remote control in its memory.
A working session starts at the reception of the START command from the remote; before of this, each command with the aim of activate some POWERDRIVE functions will be ignored.
Each received command is validated and accepted verifying two conditions:

- Match the remote control unique ID saved during the pairing procedure with the one enclosed into the received command in order to be sure that the command if from the paired transmitter
- Check the integrity of the 32 bit CRC enclosed in the command packet

Once the command is validated with the two point above, it will be acknoledged by the POWERDRIVE to the remote control with the transmission of an ACK frame.

The POWERDRIVE has also two pushbutton in order to allow the user to activate the engine CW or CCW without the handheld remote control.