# DARC-I™

**Remotely Configurable Data Acquisition and Remote Control Module**

*FlexiPanel*

## Summary

DARC-I is a standalone Data Acquisition and Remote Control (DARC) module. It is controlled by a remote device which sends it commands via a Bluetooth link.

## Hardware Features

- FCC / CE / IC certified Class I Bluetooth V1.1 radio, 100m range, integral antenna.
- 12 analog inputs (10-bit).
- 5 PWM outputs (10-bit).
- 7 digital dedicated digital I/O pins.
- All analog and PWM pins may be also configured for digital I/O.
- Digital I/O pins can be configured as one 7-bit and/or up to two 5-bit parallel digital I/O.
- 64K flash, 2.3K RAM and 1K EEPROM memory available on-board.
- Up to 256K I2C external memory.
- Real time clock.
- Onboard power regulator, 3.3V – 10V supply.
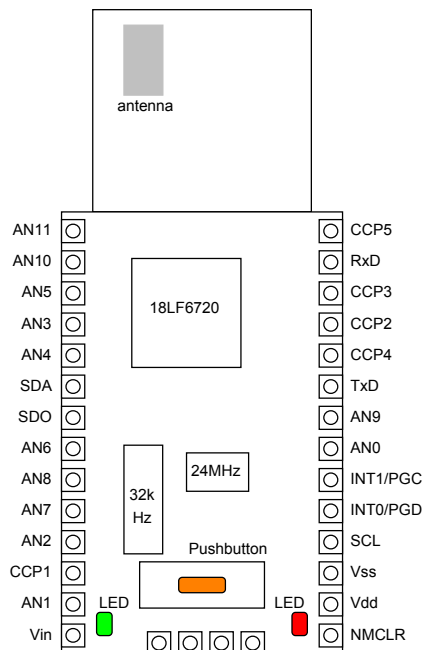


phone and module not to scale

## Firmware Features

DARC-I has a message-based command language allowing it to be configured via a Bluetooth link. The command set includes:

- PWM, digital and parallel output control.
- Analog, digital and parallel input control.
- Streaming of input data direct to remote device.
- Serial data I/O.
- Capture of frames of input data up to 5K samples / sec.
- Long-term data logging based on real time clock, even with remote device unconnected.
- Daylight savings time management.
- Bluetooth security and settings.

## Customization

- Firmware C source code available.

- Customization possibilities include faster sampling rates and power saving modes.

Manufactured to ISO9001:2000



antenna

| | | |
|---|---|---|
| AN11 | | CCP5 |
| AN10 | | RxD |
| AN5 | | CCP3 |
| AN3 | 18LF6720 | CCP2 |
| AN4 | | CCP4 |
| SDA | | TxD |
| SDO | | AN9 |
| AN6 | | AN0 |
| AN8 | 24MHz | INT1/PGC |
| AN7 | 32k Hz | INT0/PGD |
| AN2 | | SCL |
| CCP1 | Pushbutton | Vss |
| AN1 | LED      LED | Vdd |
| Vin | | NMCLR |