

Datasheet : FC Compac

Description

FC Compac is a very simple, yet efficient Plug & Play frequency converter for the growing market in simple speed control of 3 phase asynchronous AC motors. The **FC Compac** has been specifically developed for the continuously demanding market involving seamless speed control of fans/ventilators where simplicity is a must.

FC Compac is intended for motor sizes 0.37kW to 1.5kW, and is available in both analogue and digital control modes.

FC Compac can be mounted directly on the motor, or installed near the motor. For both scenarios, it is ESSENTIAL that it has a degree of forced cooling.

FC Compac is a totally integrated and encapsulated / moulded frequency converter, with a simple interface, and a built in set of sophisticated fault control systems for added protection. Over temperature, current limit, short circuit, input for Thermo switch from the attached motor etc.

FC Compac has an analogue interface with 0-10V control, as well as an digital interface with RS485. Separate START and DIRECTION inputs could be used in the analogue mode, as well as the +12V for simple potentiometer control. Standard protocol for the digital mode will be Modbus.

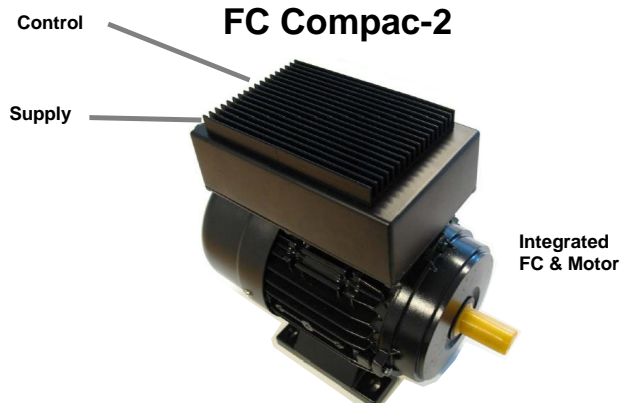
FC Compac is delivered with a standard setup, but can be configured for any settings from the FC Compac Tool -A Visual Basic application that talks to the FC via a special USB cable. Used to configure either analogue or digital control schemes, analogue modes, current limits, timeouts, relay functions, modbus addresses, boost functionality, ranges etc.

Picture

FC Compac-1



FC Compac-2



Technical

- **100% PLUG & PLAY SOLUTION, NO SETUP !**
- Input supply 180-260VAC 50/60Hz
- Input and output currents variant dependable
- 2 power ranges available 0.75 and 1.5kW
- Typical motor size 0.37 - 0.55 - 0.75 - 1.1 - 1.5 kW
- Output current nominal 150% in 60 seconds
- Short circuit protection from outputs
- Short circuit protection to Ground
- Over and undervoltage protected
- Temperature protected
- Motor protection from internal current limit
- Completely moulded inside for maximum robustness
- Cable glands for I/O connections
- Current protection level fixed in software
- Protection feature will retry 10 times with over current before fail
- Fixed Acceleration/Deceleration apr. 10 seconds 10-50Hz
- $U_{in} = 2-10V$ for 10-50Hz speed (V/F)
- Automatic STOP with $U_{in} < 2V$, start at apr. 2.2V
- Modbus RTU mode on RS485 multidrop serial link
- Restart by any failure after apr. 30 seconds
- Modulation at 15.9Khz making it very quiet
- Environmental temperatures -20 to +40°C
- Measures: 190x190x77 mm .
- CE: EMC 89/336/EEC LVD 73/23/EEC
- Options for any other digital protocol on the RS485 bus.system
- Modular connector for interfacing to configuration Tools. (Motron)

Modbus

(To be implemented in near future)

RS485 multidrop serial link with common Gnd

Modbus in RTU mode, 19.2 kBit

Services supported : decimal functions 03 and 06 (Read and Set register in FC)

Broadcasting at address 0 for setting of registers

Address range 1-16 by application program

Details of specific register SET and READ will follow

Deltasense Ltd, Perrancot House, Tanyard Lane, Edgeborough, Taunton TA2 6SP

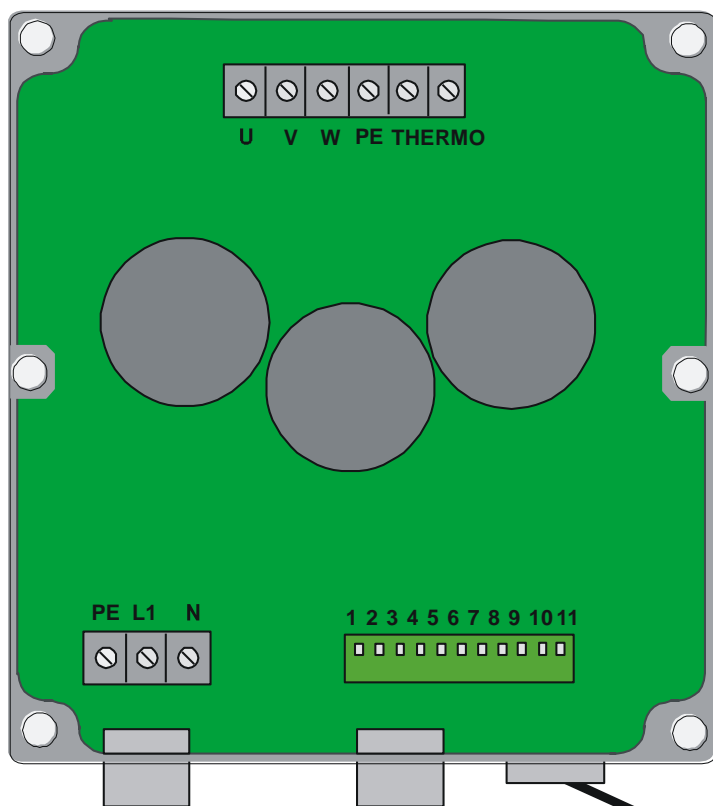
Tel +44 (0)1823 451701. Email enquiries@deltasense.com. Web www.deltasense.com

Connections

The FC is equipped with BOTH analogue and digital interfaces via terminal blocks

Flanged version to be mounted with screws directly on surfaces

Non Flanged versions to be mounted directly on top of the AC motor



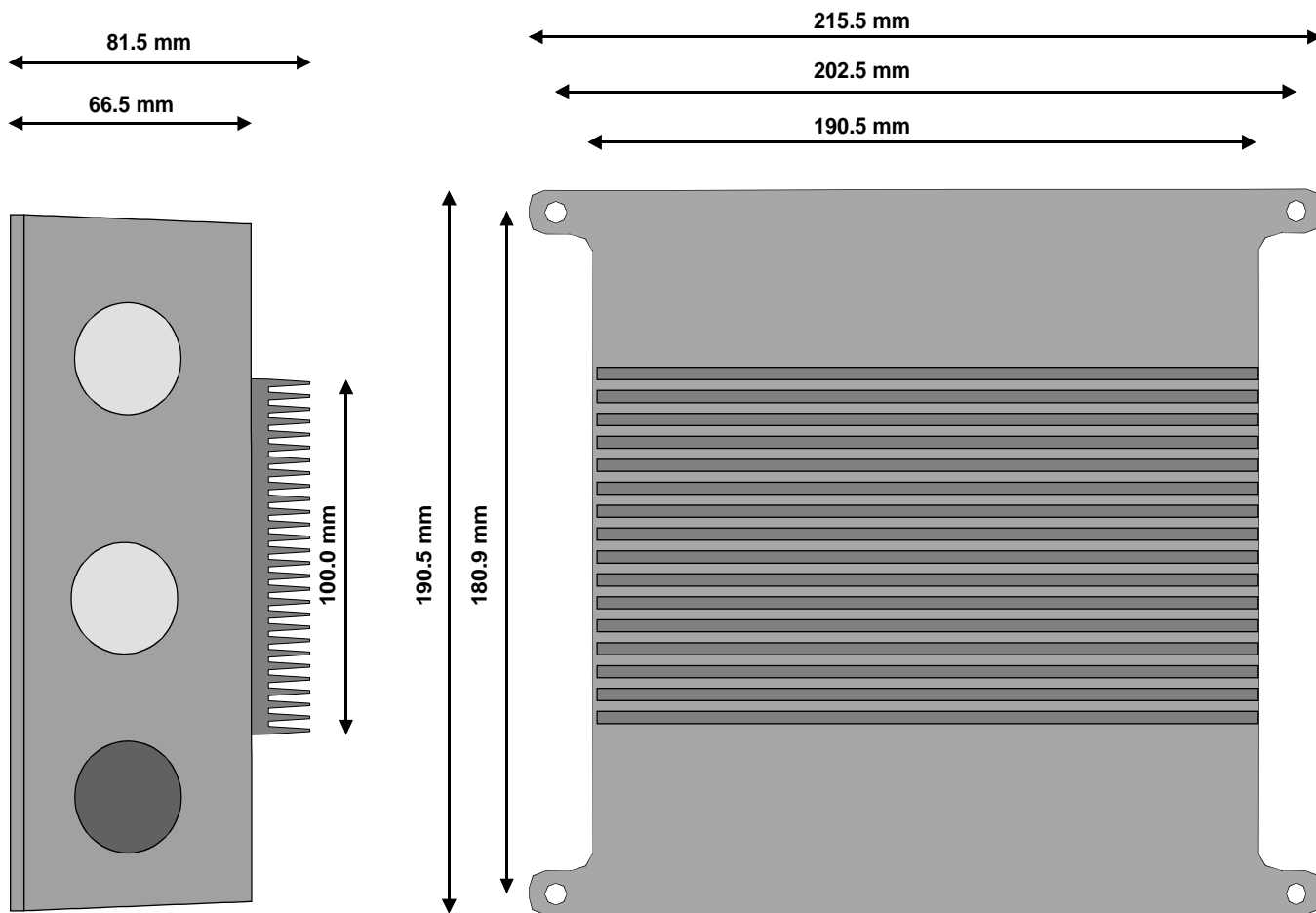
Supply
230V~
+/- 20%
50/60Hz

Control Analog
1 Alarm NC
2 Alarm C
3 Alarm NO
4 +12V
5 0-10V Control
6 Gnd
7 DIR input
8 START
9 NC
10 NC
11 NC

Control Digital
1 Alarm NC
2 Alarm C
3 Alarm NO
4 NC
5 NC
6 NC
7 NC
8 NC
9 RS485 A
10 RS485 B
11 RS485 Common

Programming
Configuration
through
Modular plug
for specific
applications
(remove protective
cap before
programming)

Measurements



NB F version with Flanges as shown, N versions without Flanges

Ordering Information

FCC-750-F 0.75 kW FC with Analogue and Digital interface in a Flanged box
FCC-1500-F 1.50 kW FC with Analogue and Digital interface in a Flanged box

(to be mounted on a surface or near the motor, separate cable gland for motor)

FCC-750-N 0.75 kW FC with Analogue and Digital interface in a Non Flanged box
FCC-1500-N 1.50 kW FC with Analogue and Digital interface in a Non Flanged box

(to be mounted on top of the motor, connections to motor through the lid)

Motron FC Compac Tool

This PC Tool can be used to configure the FC.

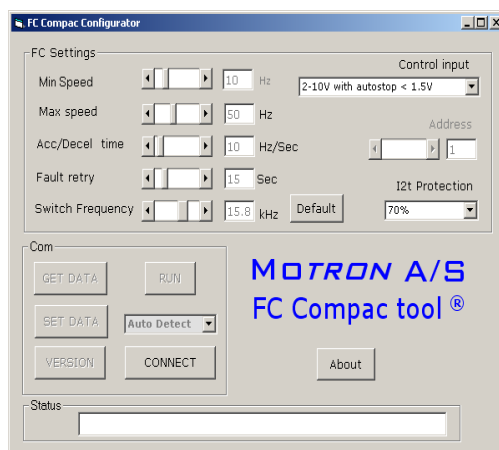
It is a simple and efficient tool, to set either Analogue or Digital control
Adjustable parameters are max and min frequency, acceleration time, current limits, switch frequency.
Even the relay output can be configured as either an alarm or running indicator.

If Modbus scheme is selected, you can alter the address for the device in the range 1-250
If analogue scheme is selected, it can be configured to either 2-10V, 0-10V or 2-10V with auto stop.

If you plug this tool into the FC, attach the SPECIAL intelligent USB Cable, you can do any changes, even try them out with the RUN button, and even better, use the **File menu to save or open existing parameter files.**



Power can be supplied or can be omitted during configuration of the FC



- 1 Connect will attach to the FC, either by automatic polling of COM port or by manual COM setting
- 2 All settings can be retrieved or set by respective buttons when connected
- 3 The RUN button will start the FC with new settings, if 230V is supplied
- 4 Default button will reset all settings to ab fabric.
- 5 Status field indicates what happens, failures etc.