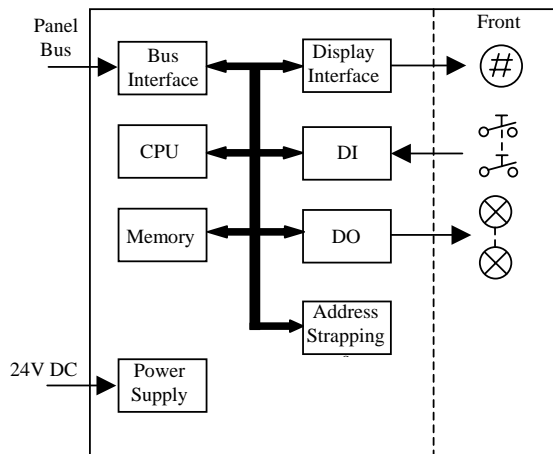## General

The DCU40 is a microcomputer based drop in panel designed to be operator interface together with an APC unit. (Application controller used together with ACV inverters or DCV converters).

The panel is connected to the APC unit by the Panel bus. The panel bus is a serial bus for multidrop, based on RS485 and designed for process communication.

The DCU40 contains a 2x16 characters alphanumeric LCD-display and 16 push buttons with light indications. The display can be divided into six fields of optional size; each field can contain text or value. The presentation in the different fields of the display is controlled by logical signals from the control equipment. The DCU40 may have up to 240 different text strings. The texts to be presented on the display are preloaded to the memory of the DCU40 at delivery but it is possible to change and load any text string from the APC unit. The panel is completely covered by a tightening membrane.

Block diagram

Environmental data

Temperature
 - Surrounding temp. range, operation +5 - +40ºC
 - Surrounding temp. range, storage -40 - +70ºC

Electrical environment
 - Interference resistance:　　PL3, SS 4361503
　　　　　　　　　　　　　　　　PL3, SS 4361522

Enclosure
　- Front　　　　　　　　IP65
　- Back and side　　　　IP00

Weight 1,8 kg

Front view

Picture shows panel without text stripes
The identification of push button function are made by PVC strips, which are put into 4 pockets of the front membrane cover from the inside of the front plate.

Data

Power supply
18-35 V DC, typical 2,5 W at start up 8 W. Max fuse: 4A

Communication:
Opto isolated RS-485, differential two wire, half duplex, multidrop.
Baud rate: 19200,9600,4800,2400 or 1200.
Bus terminator: connect pin 2 and 3.
Max cable length: < 300 m
Cable type: FLEAK 3x2x0,34
Occupies one node address on the Panel bus.

Mounting
To obtain the best immunity to electric noise the DCU40 front panel must be electrically connected to the control desk panel through the fix screws in each corner. Use nuts that make scratches in the paint of the backside of the panel. All parts of the control desk must be electrically connected to each other.

Strappings
Bus address
- The address of the DCU unit on the bus is made with dipswitches on the connector board.

Bus address	Dip switches
0	Not allowed
1	1
2	2
3	1,2
4	3
5	1,3
6	2,3
7	1,2,3
8	4
9	1,4
10	2,4
11	1,2,4
12	3,4
13	1,3,4
14	2,3,4
15	1,2,3,4

Termination
When the unit is connected as the last one on the bus, the bus must be terminated by a connection between pin 2 and 3 in any of the two connectors.

Connections
X1
8 pins inline connector of Phoenix COMBICON type.
X2
8 pins inline connector of Phoenix COMBICON type.

Application
X1 and X2
Pin
1　　　Earth
2　　　Signal A
3　　　Termination
4　　　Signal zero
5　　　Earth via capacitor and resistor
6　　　Signal B
7　　　+24 V DC
8　　　0 V

Dimensions (in mm)

204

178

160,4±0,2

154±0,2

185,8±0,2

160±0,5

Panel cut-out

Ø 5,5

Min 120