

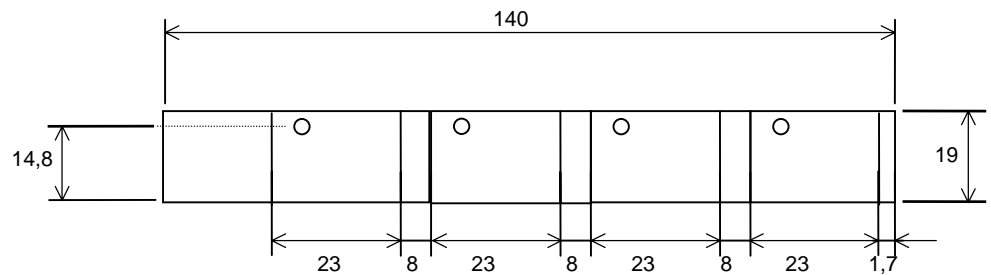
To-Till	From-Från	Date-Datum	Reg.	Page-Sidan
	01-03-19			
Dealt with by-Utfärdare		Telephone-Telefon-nr		1
Sven-Erik Karlsson		187050		
<b>DCU30M Desk Control Unit</b>				

## 1.1 Push button identification inserts

Each push button may have an individual color and a description with five characters on line one and nine characters on line two and three.

Materiel: White PVC or other nontransparent

Thickness: 0.2mm



## 1.2 Strapping Dip switches

The address of the DCU30M is set with dip switches on the circuit board.

BUS ADDRESS	DIP SWITCHES 1-4			
	1	2	3	4
1	X			
2		X		
3	X	X		
4			X	
5	X		X	
6		X	X	
7	X	X	X	
8				X
9	X			X
10		X		X
11	X	X		X
12			X	X
13	X		X	X
14		X	X	X
15	X	X	X	X

CLUSTER NUMBER	DIP SWITCHES 5-7		
	5	6	7
1	X		
2		X	
3	X	X	
4			X
5	X		X
6		X	X
7	X	X	X

**DIP switch 8**

To-Till	From-Från	Date-Datum	Reg.	Page-Sidan
	01-03-19			
Dealt with by-Utfärdare		Telephone-Telefon-nr		2
Sven-Erik Karlsson		187050		
<b>DCU30M Desk Control Unit</b>				

Set Dip SW 8 to on for Test operation only.  
In test operation DCU30M Display shows 10 values.

4	18	18	125	0
0	0	0	0	0

Row 1 from left to right

Transmitter intensity: 0-15, 15 is the highest intensity

Counter for Received number of WRITE SERVICE (command 10)

Counter for Received number of READ SERVICE (command 11)

Counter for Received number of DATASET WRITE/READ (command 00)

Counter for Received number of DATASET READ (command 01)

Row 2 from left to right

Counter for Received number of WRITE TO CONTROL REG (command 24)

Counter for Received number of READ CONTROL REG (command 25)

Received MAJOR code in last received not valid message.

Received MINOR code in last received not valid message.

Counter for Received number of not valid messages.

All counters counting from 0 to 255 and then starting from 0 again.

Use pushbutton 14 (-) and 15(+) to adjust Transmitter intensity from 0 to 15. Set value will be stored in EEPROM. Value 0 then transmitter is off, value 15 (max intensity) is the default value.

### 1.3 Change of display brightness

It is possible to adjust the brightness of the display.

1. Give the order lampstest to DCU30M.
2. Change brightness with push button 14(-) and 15(+).

### 1.4 Connections

- P1 +24V
- P2 0V
- P3 Cable screen (HF to chassi)
- P4 (Chassi)
- OPT1 Versatile Link. Fiber for RX data
- OPT2 Versatile Link. Fiber for TX data

CN5 D-SUB 9 pole female for service aid. CN5 is located inside DCU30M

### 1.5 Optofibe

DCU30M can be connected with 1.0mm plastic fibre POF or 200um Hard Clad Silica HCS fibre.

ModuleBus: Use TB810 adapter in AC70/80 or FCI unit when using HCS fibre.

ModuleBus: Use TB810 or TB811 adapter in AC70/80 or FCI unit when using Plastic fibre.

DriveBus channel on AC80 can handel Plastic or HCS fibre.

Special I/O channel on AC80 can handel Plastic fibre only.

To-Till	From-Från	Date-Datum	Reg.	Page-Sidan
		01-03-19		
	Dealt with by-Utfärdare	Telephone-Telefon-nr		<b>3</b>
	Sven-Erik Karlsson	187050		
<b>DCU30M Desk Control Unit</b>				

## DESCRIPTION OF THE COMMUNICATION INTERFACE

DCU30M can communicate on 3 different busses with DDCS protocol.

1. AC410/110 and AC70/AC80: Optical ModuleBus using the DRIENG database.
2. AC80 only: : Optical DriveBus using DriveBus database and ACSRX pcelement.
3. AC80 only: : Optical Special I/O Bus NCBI0 database and IORX pcelement.

### 1. Optical ModuleBus

The communication between DCU30M and ABB AdvantController is made with the use of DRIENG. Remember to count one Drieng as 2 I/O modules when checking for max 24 I/O units on one FCI unit.

#### Engineered drive AC410/450

NAME: DCU30M\_R1  
 BUS: AF100 bus number  
 STATION: AF100 station number  
 POSITION: 101 (DCU30M Cluster and node settings)  
 IMPL: 1  
 SERVICE: 1  
 TYPE: ACS600 ENG  
 IOSCANT1: 256  
 IOSCANT2: 256  
 APPID: 0  
 FIRSTDDS: 10  
 NOFSDDS: 10  
 NOFRDDS: 10

#### Engineered drive AC70/80

NAME: DCU30M\_R1  
 BUS: AF100 bus number  
 STATION: AF100 station number  
 POSITION: 101 (DCU30M Cluster and node settings)  
 IMPL: 1  
 SERVICE: 1  
 TYPE: ACS600 ENG  
 APPID: 0  
 REF1: DRIDS1  
 REF2: DRIDS2  
 REF3: DRIDS3  
 REF4: DRIDS4  
 REF5: DRIDS5  
 REF6: DRIDS6  
 REF7: DRIDS7  
 REF8: DRIDS8  
 REF9: DRIDS9  
 REF10: DRIDS10

#### Drive Data Set total 10 instances

NAME: DRIDS1  
 INPL: 1  
 DS\_NO: 10

NAME: DRIDS2  
 INPL: 1  
 DS\_NO: 12

To-Till	From-Från	Date-Datum	Reg.	Page-Sidan
	01-03-19			
Dealt with by-Utfärdare		Telephone-Telefon-nr		4
Sven-Erik Karlsson		187050		
<b>DCU30M Desk Control Unit</b>				

.....DRIDS10

## 2. Optical Drive Bus (AC80)

The communication between DCU30M and ABB AdvantController is made with the use of DriveBus database element and pc element ACSRX

### DRBOOL1

```

DRNR1:          1
DRTYPE1:        ACS600
APPID1:         0
DRNR2:          1
DRTYPE2:        NO_DRIVE
APPID2:         0
DRNR3:          1
DRTYPE3:        NO_DRIVE
APPID3:         0
DRNR4:          1
DRTYPE4:        NO_DRIVE
APPID4:         0
    
```

Use 3 ACSRX to be able to write to 10 dataset.

```

PC1.2.1      ACSRX (1,4)
      :DRNR          1
      :EN            D=1
      :RESET        PC1.2:RUN
      :CNTRL        D=0
      :DS1          D=10
      :WR1          D=1
      :I11
      :I21
      :I31
      :DS2          D=12
      :WR2          D=1
      :I12
      :I22
      :I32
      :DS3          D=14
      :WR3          D=1
      :I13
      :I23
      :I33
      :DS4          D=16
      :WR4          D=1
      :I14
      :I24
      :I34
    
```

To-Till	From-Från	Date-Datum	Reg.	Page-Sidan
		01-03-19		
	Dealt with by-Utfärdare	Telephone-Telefon-nr		<b>5</b>
	Sven-Erik Karlsson	187050		
	<b>DCU30M Desk Control Unit</b>			

### 3. Optical Special I/O Bus NCBIO database and IORX pcelement. (AC80)

The communication between DCU30M and ABB AdvantController is made with the use of NCBIO database element and pc element IORX

#### NCBIO1

IOTYPE1: DSU\_DEVICE  
IOTYPE2: NO\_DEVIC  
IOTYPE3: NO\_DEVIC  
IOTYPE4: NO\_DEVIC

Use 5 ACSRX to be able to write to 10 dataset.

PC1.2.2 IORX (1,2,I)

:NODE	1
:EN	D=1
:RESET	PC1.2:RUN
:CNTRL	D=0
:DS1	D=10
:WR1	D=1
:I11	
:I21	
:I31	
:DS2	D=12
:WR2	D=1
:I12	
:I22	
:I32	



To-Till	From-Från	Date-Datum	Reg.	Page-Sidan
		01-03-19		
	Dealt with by-Utfärdare	Telephone-Telefon-nr		7
	Sven-Erik Karlsson	187050		
<b>DCU30M Desk Control Unit</b>				

“Ind”

Bit 0	Light indication in push button no 1.
“	
Bit 14	Light indication in push button no 15.
Bit 15	Light indication in push button no 16.

“IndF”

Bit 0	Light indication in push button no 1.
“	
Bit 14	Light indication in push button no 15.
Bit 15	Light indication in push button no 16.

“Deltim”

Deltim is used to obtain a minimum pulse time for push buttons. Set 1280 to obtain 200mS minimum pulse from a push button. This will ensure that the PC program running at 200mS can catch a fast operator order.

Push buttons are scanned with 40 mS in the DCU30M.

To-Till	From-Från	Date-Datum	Reg.	Page-Sidan <b>8</b>
	01-03-19			
Dealt with by-Utfärdare		Telephone-Telefon-nr		
Sven-Erik Karlsson		187050		
<b>DCU30M Desk Control Unit</b>				

“Time” Time for fast flash oscillator

The Time will give the frequency according to the equation.

Pulse length=250mS+ “Time”x 10mS

i.e. for a Time parameter value of 25 the Flash pulse time will be 0.5s.

“DCommon bit 0” Lamptest

“256”, lamptest is performed and it is possible to change the display brightness with the use off push buttons 14 and 15.

“0”, normal presentation.

“DispX”

Text disposition

Not used	Data type	Fast flash	Slow flash	No of dec 0-4 (7)				Mode 0-3		No pres.	Start position 0-31				
15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00

“DispX “ bit 00-04 Start position

The start position of field with text or a value on the display is given as a number between 0 and 31. Zero is used to indicate top left position.

The selected string will be written from the given start position to the start position of the next active field or to the end of the display.

A text string which is larger than the available space will be truncated by the next active field or the end of the display.

A text string which is shorter than the available space will “blank” the remaining space to the next active field or to the end of the display.

Two active fields with the same start position will be indicated with “-----”.

The two display lines are handled as one line,i.e one string may cover both lines.

“DispX “ bit05 No presentation of field

“0” The field is active and will affect the previous field.

“1” The field is not active and will not affect the other fields.

“DispX “ bit 06-07 Presentation mode

Mode 0, the field will present text rightwards from the given start position.

Mode 1, the field will present a numerical value leftwards from the start position of the next active field or from the end of the display. The numerical value will be written backwards until the string reach the start position of it’s own field.

A value that is greater (has more figures) than the available space will be indicated with “9999”.

A value that is less (has less figures) than the available space will “blank” the remaining space to the left.

Note! The presentation of numerical value is limited to six figures.

i.e the presented value has to be in the range 999999 to -99999.

Mode 2, the field will present a numerical value without clearing the leading zeroes. This possibility may, as an example be used to give a time “0730”. All other functions are equal to Mode 1.

Mode 3, this mode is not defined.

“DispX “ bit 08 Not defined

“DispX “ bit 09-11 Number of decimals in the presentation of a numerical 0. Set decimals to 0-4.

“DispX “ bit 12 Slow Flash of the field



To-Till	From-Från	Date-Datum	Reg.	Page-Sidan
		01-03-19		
	Dealt with by-Utfärdare	Telephone-Telefon-nr		<b>9</b>
	Sven-Erik Karlsson	187050		
	<b>DCU30M Desk Control Unit</b>			

“1” , the field is blank but still active.

“0”, normal presentation.

The bit for slow flashing is controlled from PC program.

“DispX” bit 13 Fast flash of the field

“1”, the field is flashing with a frequency given by the “Time” parameter which is described below.

“0”, normal presentation.

“DispX” bit 14 Datatype

Data type . 0=value is Integer long, 1=value is floating point

“Value1-6”

The value is used to select a text string to be presented or as a numerical presentation depending on the “Mode” parameter and “DispX”

DCU30M can handle data type integer long or floating point. Select type of data in “dispX” bit 14.

TextNum, TextPos, Char1-Char4

TextNum is the high 8 bits (bit 8-15) and TextPos is the low bits (bit 0-7) in the word.

This is used for Sending text strings to DCU30M EEPROM. The whole textstring can not be send at same time. Only four character can be send at one time.

TextNum is actual textnumber to send.

TextPos is character position in the string.