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Dealt with by-Utfärdare		Telephone-Telefon-nr		1
Sven-Erik Karlsson		187050		

Modulbus-Selma/Sami/Sele converter PE1358B

1. General

PE1358B is a protocol converter designed to connect up to eight different Selma/Sami/Sele channels to ABB ModuleBus (DDCS+). The unit is enclosed in a metal box with connection terminal for Power supply and Selma connection. Connector type HP Versatile link for ABB ModuleBus connection.

The ModulBus communication is handled by an 80C32 microprocessor and the eight Selma/Sami/Sele communication links is handled by a Hitachi H8/532 microprocessor. The two microprocessors are communication thru a dual port memory.

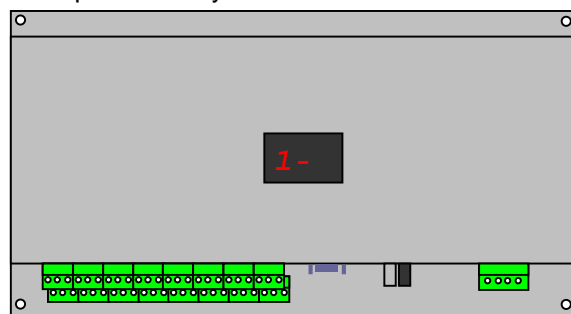
2. Technical description

2.1 Dimension and mounting

PE1358 is mounted in the ABB AC80/AC4xx cubicle or in a separate enclosure together with 24V DC supply.

To obtain the best immunity to electric noise the PE1358 must be electrically connected to cubicle through 4 M5 screws in each corner.

Size: 298 x 170 mm (w x h)
 Required mounting deep: 50mm
 Mounting screws: 4 x M5
 Mounting holes position: 278 x 160mm(w x h)



2.2 Technical data

Power supply 24V DC (12-30V DC), max 100mA at 24V
 Enclosure class IP00
 Operation 5..+40 °C., Storage -40..+70 °C.

Communication to Selma/Sami/Sele

Protocol: Sami protocol, current loop, 0-20mA

Cable: twisted pair, pair screened, common screened, 2x2x0.5 (FKAR-PIG,FLEAK)

Cable length max 50m.

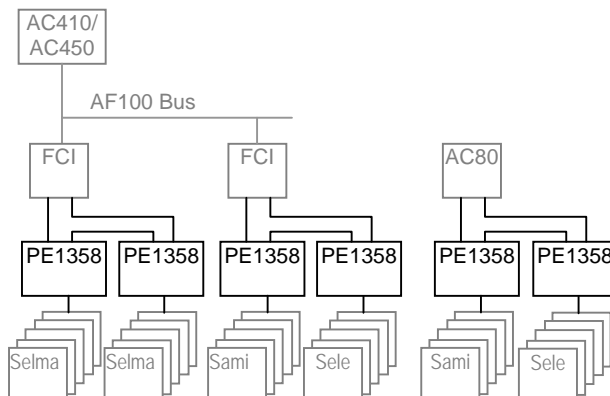
Settings: 4800 or 9600Baud,Even parity,7 bits, 1 stop bit

Communication to ABB AC80/AC4xx

PE1358 is connected in a ring with 1.0mm plastic fiber POF or 200µm Hard Clad Silica HCS fiber.

Opto fiber: Transmission speed 4Mbit

Max length : 200m of 200µmHCS (Use TB810) or 15m 1.0mm plastic (Use TB810 or TB811)



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2.3 Status indications

The communication status is indicated on a two segment display which will indicate the actual status on each of the eight Selma/Sami/Sele channels. First digit indicate Selma/Sami/Sele channel 1-8, Second digit indication status for channel.

Digit	Description
0	No contact with ACXX and no contact with Selma/Sami/Sele
1	Contact with ACXX (No contact with Selma/Sami/Sele)
2	Contact with Selma/Sami/Sele (No contact with ACXX)
-	Normal communication ABB Acxx – Selma/Sami/Sele
A	No message received from Selma/Sami/Sele during superv interval
b	Configuration error
c	Transmission to Selma/Sami/Sele is choked, i.e to fast update from ABB ACXX
d	Failure in verification of signal from ABB to Selma/Sami/Sele
E	Checksum error in signal from Selma/Sami/Sele
F	Communication line fault (Uart error) Overrun, framing or parity

2.4 Dip switch setup

S1	Normal	FUNCTION
1	Off	On=Halt cyclic presentation on LCD
2	On=1	Fiber Transmitter Intensity 0-3
3	On=2	Fiber Transmitter Intensity 0-3
4	On=1	Cluster number 0-7
5	On=2	Cluster number 0-7
6	On=4	Cluster number 0-7
7	On/Off	On=Sami Ch1-4, 4800/ Off =Sami Ch1-4,9600 Baud
8	On/Off	On=Sami Ch5-8, 4800/ Off =Sami Ch1-4,9600 Baud

2.5 Connections

Communication to ABB AC80/AC4xx

PE1358 is connected in a ring with 1.0mm plastic fiber POF or 200µm Hard Clad Silica HCS fiber.

Max length : 200m of 200µmHCS (Use TB810) or 15m 1.0mm plastic (Use TB810 or TB811)

Communication to Selma/Sami/Sele

Cable: twisted pair, pair screened, common screened, 2x2x0.5 (FKAR-PIG,FLEAK)

Cable length max 50m.

2.6 Address

PE1358 answer on node address 1-8 on the selected cluster. Cluster number 0-7 is strapped on dipswitch.

Address 1 is connected to Selma/Sami/Sele channel 1, address 2 to Selma/Sami/Sele channel 2 and so on.

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2.7 Communication setup datasets to SELMA/SAMI/SELE

PE1358B can be setup to send up to 8 values to Selma/Sami/Sele and receive up to 16 values from Selma/Sami/Sele. All values must be in address range 1-255.

DS18.I1 to DS22.I2 define the addresses of data coming from Selma/Sami/Sele.

High 8 bits of integer is used for first addr and low 8 bits is used for next addr.

Define the Regular receive signals in order without any wholes. When the first addr set to 0 is detected then the following addresses are not included.

If Selma/Sami/Sele sends data outside the specified addresses then a error counter DS23.O2 is incremented and the address of data is placed in DS25.O2.

DS24.I1 to DS26.I1 define the addresses of data to send to Selma/Sami/Sele.

DS16.I2 can be used as alternative for DS26.I1. This is useful when using AC800 with only 8 datasets.

High 8 bits of integer is used for first addr and low 8 bits is used for next addr.

Data is sent to Selma/Sami/Sele if data from ACxx is changed or If data not is change within refresh interval set by DS22.I3. The refresh interval is set in number of 20ms cycles i.e. set value 50 for 2 seconds refresh interval.

Communication time out supervision will restart Communication to Selma/Sami/Sele if no data has arrived from Selma/Sami/Sele within the refresh time interval.

2.8 Communication supervision

If PE1358 lose contact with AC80/AC4XX then PE1358 will stop the communication to Samii/Sele.

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2.9 Signal list AC80/AC4xx to/from Selma/Sami/Sele

Eprom version PE1358B H8 Ver 3 and newer have this Mapping table

AC80 Ref.	Value	Name	Function
DS10.I1	-32768..32767	AC80 Data to Selma/Sami/Sele	Regular transmit 1 data
DS10.I2	-32768..32767	"	Regular transmit 2 data
DS10.I3	-32768..32767	"	Regular transmit 3 data
DS12.I1	-32768..32767	"	Regular transmit 4 data
DS12.I2	-32768..32767	"	Regular transmit 5 data
DS12.I3	-32768..32767	"	Regular transmit 6 data
DS14.I1	-32768..32767	"	Regular transmit 7 data
DS14.I2	-32768..32767	"	Regular transmit 8 data
DS14.I3			
DS16.I1			
DS11.O1	-32768..32767	Selma/Sami/Sele to AC80	Regular receive 1 data
DS11.O2	-32768..32767	"	Regular receive 2 data
DS11.O3	-32768..32767	"	Regular receive 3 data
DS13.O1	-32768..32767	"	Regular receive 4 data
DS13.O2	-32768..32767	"	Regular receive 5 data
DS13.O3	-32768..32767	"	Regular receive 6 data
DS15.O1	-32768..32767	"	Regular receive 7 data
DS15.O2	-32768..32767	"	Regular receive 8 data
DS15.O3	-32768..32767	"	Regular receive 9 data
DS17.O1	-32768..32767	"	Regular receive 10 data
DS17.O2	-32768..32767	"	Regular receive 11 data
DS17.O3	-32768..32767	"	Regular receive 12 data
DS19.O1	-32768..32767	"	Regular receive 13 data
DS19.O2	-32768..32767	"	Regular receive 14 data
DS19.O3	-32768..32767	"	Regular receive 15 data
DS21.O1	-32768..32767	"	Regular receive 16 data
DS23.O1	1=OK,0-6 No comm	Data from PE1358	SELMA Comm status
DS23.O2	-32768..32767	"	Selma com error counter
DS23.O3	-32768..32767	"	Number of rec. frames from SELMA
DS25.O1	-32768..32767	"	Number of trm. frames to SELMA
DS25.O2	-32768..32767	"	Rec addr from selma not Set up ok
DS25.O3			
DS27.O1			
DS27.O2	-32768..32767	Same data as DS26.I2	Watch dog data
Configuration data from AC80/AC800 to PE1358			
DS18.I1	0-255	High byte	Address Regular receive 1
	0-255	Low byte	Address Regular receive 2
DS18.I2	0-255	High byte	Address Regular receive 3
	0-255	Low byte	Address Regular receive 4
DS18.I3	0-255	High byte	Address Regular receive 5
	0-255	Low byte	Address Regular receive 6
DS20.I1	0-255	High byte	Address Regular receive 7
	0-255	Low byte	Address Regular receive 8
DS20.I2	0-255	High byte	Address Regular receive 9
	0-255	Low byte	Address Regular receive 10
DS20.I3	0-255	High byte	Address Regular receive 11
	0-255	Low byte	Address Regular receive 12
DS22.I1	0-255	High byte	Address Regular receive 13
	0-255	Low byte	Address Regular receive 14
DS22.I2	0-255	High byte	Address Regular receive 15
	0-255	Low byte	Address Regular receive 16
DS22.I3	0-32767		Refresh interval outputs (*20ms)
DS24.I1	0-255	High byte	Address Regular transmit 1
	0-255	Low byte	Address Regular transmit 2
DS24.I2	0-255	High byte	Address Regular transmit 3
	0-255	Low byte	Address Regular transmit 4
DS24.I3	0-255	High byte	Address Regular transmit 5
	0-255	Low byte	Address Regular transmit 6
DS26.I1	0-255	High byte	Address Regular transmit 7
Or(DS16.I2)	0-255	Low byte	Address Regular transmit 8