

87-5075

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DESCRIPTION

The 5075 is an adapter card for opto-isolated serial communication with current loop, which consists of a cable connector with opto-couplers and jumpers for configuring the function.

It contains two current loop input and two current loop output channels, which independantly may be selected as active or passive.

5075 is configured for:
- 1004 Single Board Computer
- 4117 UART interface

For the 1004 single board computer, jumpers are available for selection of baudrate, using the CTC-circuits on the 1004.

Full galvanic isolation is achieved if all channels are passive OR if external +12V are used on I/O-pin W3 and OV on W1. (S18,S19 open).

External OV may be connected to protective ground through pin W2 on the 5075.

BESKRIVNING

5075 är ett tillsatskort för opto-isolerad seriell kommunikation med strömslinga. Kortet består av en kabelkontakt med optokopplare och byglingar för olika funktionsval.

Det innehåller två strömslinge-ingångar och två utgångar, vilka oberoende kan väljas att vara aktiva eller passiva.

5075 har anpassning för:
- 1004 Z80 Enkortsdator
- 4117 UART interface

För 1004 enkortsdatorn finns byglingar för att välja baudrate, genom att använda CTC-kretsen på 1004.

Full galvanisk isolering erhålles om alla kanaler är passiva ELLER om extern +12V anslutes till I/O-pin W3 och OV till W1. (S18,S19 öppna).

Extern OV kan även anslutas till skyddsjord via I/O-pin W2 på 5075.

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DataSweden AB Box 2029 18302 Täby, SWEDEN 08-7860660 Tlx 10978

4117 CONNECTIONS:

Note! The resistor R2 on the 4117 card shall be by-passed (shorted) to achieve correct +12V power to 5075.

Connections according to the table gives the following functions:

Name	Pin	Functions			+	-
R*D	12B	<---o S15 o---	Cur.loop CH.A	<----	X2(+), X1(-)	
T*D	4B	----->	Cur.loop CH.A	----->	Y2(+), Y1(-)	
CTS	9B	<---o S10 o---	Cur.loop CH.B	<----	V2(+), V1(-)	
DTR	3B	---o S17 o---	Cur.loop CH.B	----->	Z2(+), Z1(-)	
RI	13B	<---o S14 o---	+12V	(RI = Ring signal)		
+12V	32B	----->				

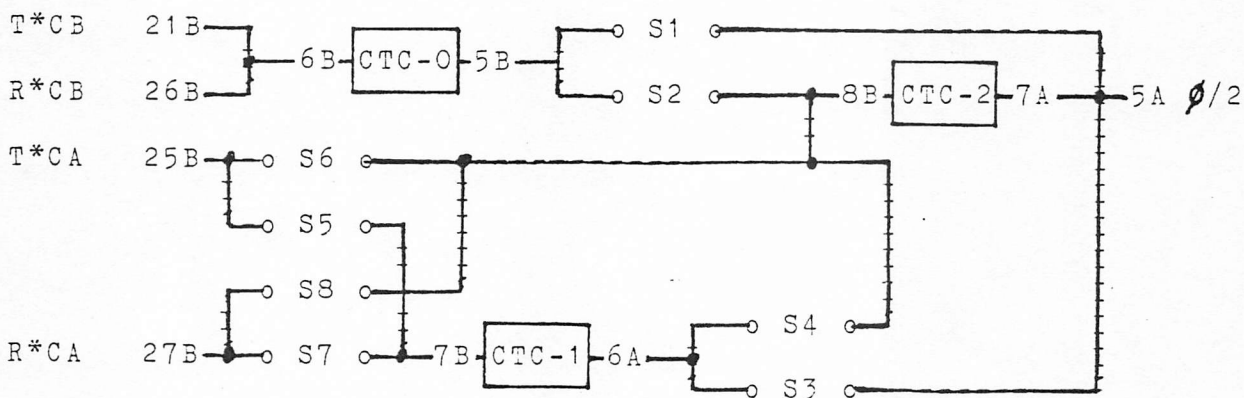
1004 CONNECTIONS:

Note! On 1004 vers. A,B,C,D, connect pins 2A -- 17A to achieve correct function.

1004 ANPASSINGAR

Obs! På 1004 vers. A,B,C,D ska stiften 2A -- 17A sammanbindas för korrekt funktion.

Name	Pin	Functions			+	-
R*DA	13B	<---o S13 o---	Cur.loop CH.A	<----	X2(+), X1(-)	
T*DA	12B	---o S16 o---	Cur.loop CH.A	----->	Y2(+), Y1(-)	
R*DB	20B	<-----	Cur.loop CH.B	<----	V2(+), V1(-)	
T*DB	24B	---o S12 o---	Cur.loop CH.B	----->	Z2(+), Z1(-)	



SYNCA	19B	<-----	
DCDA	18B	<-----	
CTSA	15B	<-----	
DCDB	22B	<-----	
CTSB	23B	<-----	
OV	17B	-----	

OV 17A -----> Converts the signals for 1004 single board computer.

Anpassar signalerna för 1004 enkortsdator.

I/O-CABLE CONNECTION

The cable are soldered to the 5075 card as shown below and on the component diagram.

The arrows show the direction of the current.

I/O-KABEL ANSLUTNING

Kabeln lödes på 5075 kortet såsom visas nedan och enligt komponentplacerings-schemat.

Pilarna visar strömriktningen.

X2 + <-- Channel A, Receive. Kanal A, Mottagare.
X1 - -->

Y2 + <-- Channel A, Transmit. Kanal A, Sändare.
Y1 - -->

V2 + <-- Channel B, Receive. Kanal B, Mottagare.
V1 - -->

Z2 + <-- Channel B, Transmit. Kanal B,, Sändare.
Z1 - -->

W1 External 0V (Open S19,S18 if used)

W2 External Protective ground.

W3 External +12V (Open S19,S18 if used)

CURRENT LOOP CONNECTIONS

A current loop communication line consists of one active and one passive interface.

An active transmitter drives current through to a passive receiver.

A passive transmitter only closes the circuit for the current from an active receiver.

Each of the two transmitting and the two receiving channels on the 5075 may be selected active or passive. If any 5075 channel shall be active, the required +12V voltage may be external to provide full galvanic isolation.

STRÖMSLINGA BYGLINGAR

En kommunikationslinje med ström-slinga består av ett aktivt och ett passivt interface.

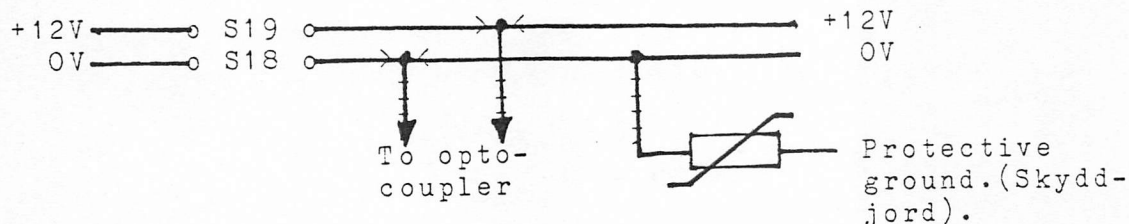
En aktiv sändare driver ström genom linjen till en passiv mottagare.

En passiv sändare sluter endast slingan för strömmen, som kommer från mottagaren.

Vardera av de två sändarna och mottagarna på 5075 kan väljas passiva eller aktiva. Om någon 5075 kanal skall vara aktiv, krävs +12V, vilken kan tas externt för att erhålla full galvanisk isolering.

Internal (Intern)

External (Extern)

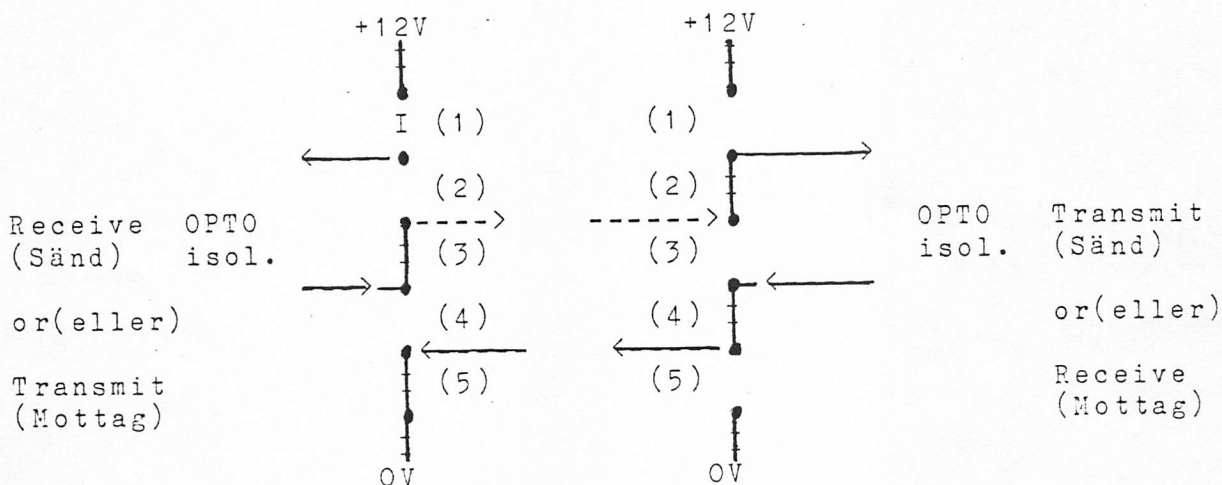


For each channel, the selection of active/passive is:

För varje kanal, väljs aktiv eller passiv enligt:

Active:

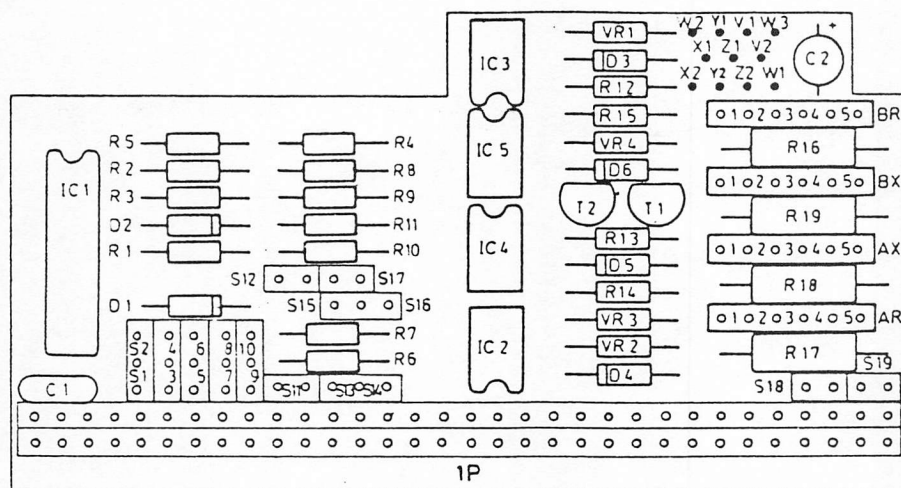
Passive:



COMPONENT DIAGRAM AND STRAP TABLE

KOMPONENTPLACERING OCH BYGLINGSTABELL

Hole marked •
must be protected
from soldering



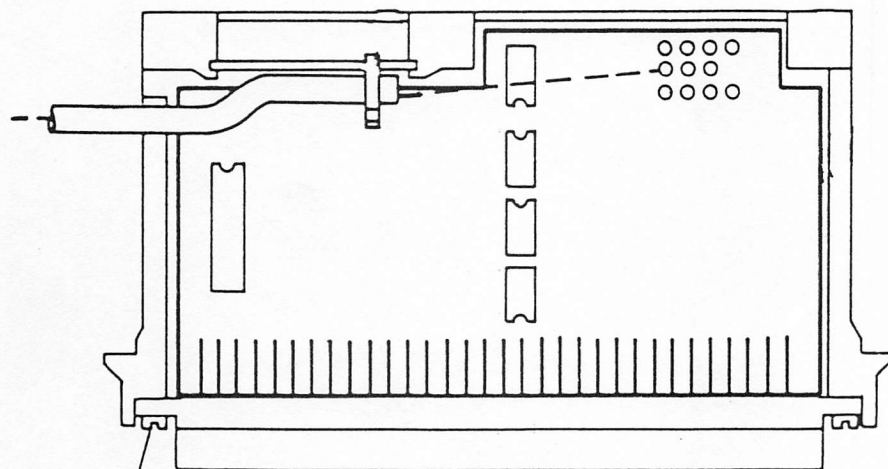
Card type	Select	Baud rate generation	Straps																
			S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15	S16	S17
4117	—	INT	0	X	X	0	X	X	X	X	0	C	X	0	0	C	C	0	C
1004	IN0	IN0 = $\phi/2$ IN0 = OUT2	C	0	See Select IN1	See Select TXCA	See Select RXCA	X	X	0	C	C	0	0	C	0	0	0	0
"	IN1	IN1 = $\phi/2$ IN1 = OUT2	See Select IN0	C	0	See Select TXCA	See Select RXCA	"	"	"	"	"	"	"	"	"	"	"	"
"	TXCA	TXCA = OUT1 TXCA = OUT2	See Select IN0	See Select IN1	C	0	See Select RXCA	"	"	"	"	"	"	"	"	"	"	"	"
"	RXCA	RXCA = OUT1 RXCA = OUT2	See Select IN0	See Select IN1	See Select TXCA	C	0	"	"	"	"	"	"	"	"	"	"	"	"

Strapfields:

LOOP TYPE	AR AX BR BX				
	1	2	3	4	5
ACTIVE	C	0	C	0	C
PASSIVE	0	C	0	C	0

AR = RCVR Ch A
AX = XMTR Ch A
BR = RCVR Ch B
BX = XMTR Ch B

X = don't care
0 = open
C = closed



Screw included in housing

