Trenz Electronic GmbH
Brendel 20
32257 Bünde, Germany
www.trenz-electronic.de

16 Channel 24 to TTL Level Conversion

2003-March-22 User's Manual

Characteristics

- 16 channel 24V to TTL conversion
- In- and outputs electrically isolated
- LED switching status for every channel
- 3U, 4HP, 19” euro card

Application

This board is intended to convert industry standard 24V signals (e.g. From Sensors and limit switches) to 5V TTL level.

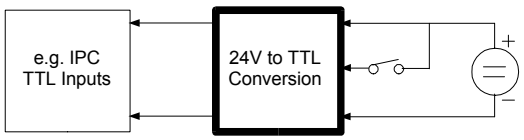

Figure 1: Typical application

Description

The high level inputs are electrically isolated from the TTL outputs. Signals are transferred via photo couplers.

The outputs of the optical coupler drives the indicator LED and a HCT gate. Outputs of this HCT gate are TTL compatible.

The indicator LED's lights up, when a high level is applied to the inputs.

Front panel

16 indicator LED's are located on the front panel and signal the status of the inputs.

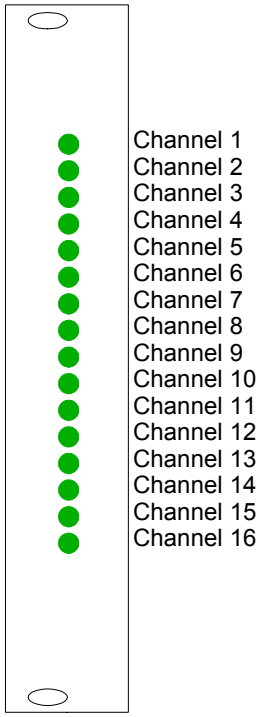

Figure 2: Front panel

Pin Assignment VG Connector

PIN	Function	PIN	Function
1A	Input Channel 1 (24V DC)	1C	Input Channel 2 (24V DC)
2A	Input Channel 3 (24V DC)	2C	Input Channel 4 (24V DC)
3A	Input Channel 5 (24V DC)	3C	Input Channel 6 (24V DC)
4A	Input Channel 7 (24V DC)	4C	Input Channel 8 (24V DC)
5A	Input Channel 9 (24V DC)	5C	Input Channel 10 (24V DC)
6A	Input Channel 11 (24V DC)	6C	Input Channel 12 (24V DC)
7A	Input Channel 13 (24V DC)	7C	Input Channel 14 (24V DC)
8A	Input Channel 15 (24V DC)	8C	Input Channel 16 (24V DC)
9A	Not Connected	9C	Not Connected
10A	Not Connected	10C	Not Connected
11A	Not Connected	11C	Not Connected
12A	Not Connected	12C	Not Connected
13A	Not Connected	13C	Not Connected
14A	Not Connected	14C	Not Connected
15A	Not Connected	15C	Not Connected
16A	GND (TTL)	16C	GND (TTL)
17A	GND (TTL)	17C	GND (TTL)
18A	Output Channel 1 (TTL)	18C	Output Channel 2 (TTL)
19A	Output Channel 3 (TTL)	19C	Output Channel 4 (TTL)
20A	Output Channel 5 (TTL)	20C	Output Channel 6 (TTL)
21A	Output Channel 7 (TTL)	21C	Output Channel 8 (TTL)
22A	Output Channel 9 (TTL)	22C	Output Channel 10 (TTL)
23A	Output Channel 11 (TTL)	23C	Output Channel 12 (TTL)
24A	Output Channel 13 (TTL)	24C	Output Channel 14 (TTL)
25A	Output Channel 15 (TTL)	25C	Output Channel 16 (TTL)
26A	Not Connected	26C	Not Connected
27A	Not Connected	27C	Not Connected
28A	Not Connected	28C	Not Connected
29A	Not Connected	29C	Not Connected
30A	+24V	30C	+24V
31A	Not Connected	31C	Not Connected
32A	GND 24V	32C	GND 24V

Table 1: Pin Assignment

Sample Circuit

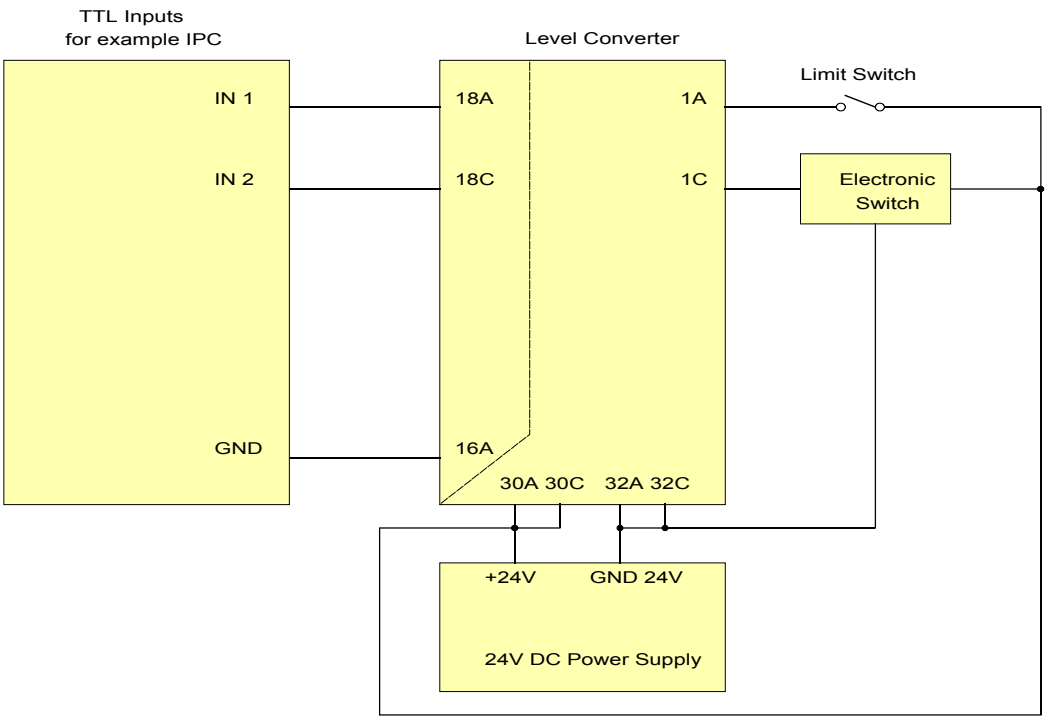

Figure 3: Sample Circuit

Technical Data

Parameter	Condition	Typical	Limit
Supply Voltage	-	24 V	21,6 V – 26,4 V
Output Logic Low	4 mA load	-	0,4 V max
Output Logic High	-4 mA load	-	3,7 V min
On Delay	-	-	100 ns
Off Delay	-	-	100 ns

Table 2: Technical Data

Ordering Details

The Order Number is: **TE0102-00**

Revision History

Rev.	Date	Who	Description
1.0	22.03.2003	TT	Created

Table 3: Revision History