

## Characteristics

- 16 channel TTL to 24V conversion
- Integrated High-Side power switches
- In- and outputs electrically isolated
- Suited to drive inductive load
- High current: 1A per channel, 4A per Karte
- Short circuit proof
- High temperature shut down
- LED switching status for every channel
- LED fault status
- 3U 4HP 19" euro card

## Application

This board is intended to convert 5V TTL signals to industrie standard 24V level. The high power outputs are suited to drive magnetic contactors, solenoids and small motors directly.

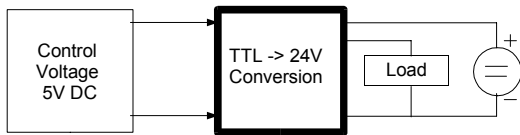


Figure 1: Typical Application

## Description

The TTL inputs are connected to internal HCT gates. To insure proper input levels with open inputs, pull down resistors are included.

Inputs and outputs are electrically isolated via photo couplers. 24V Outputs are integrated high side power switches, capable of driving 1A per channel

Outputs are capable of driving resistive and inductive loads directly. No freewheel diode is required. However, to minimize electromagnetic interferences, freewheel diodes near the load could be usefull.

Outputs are protected against short circuit, and excessive temperatures.

To achieve higher output current, several out-

puts of the same group could be paralleled. Grouping is as follows:

- Group 1: Channel 1 - 4
- Group 2: Chann 5 - 8
- Group 3: Chann 9 - 12
- Group 4: Chan 13 - 16

## Front panel

16 indicator LED's are located on the front panel, signaling the status of the 24V outputs. 4 more LED's signaling group failures.

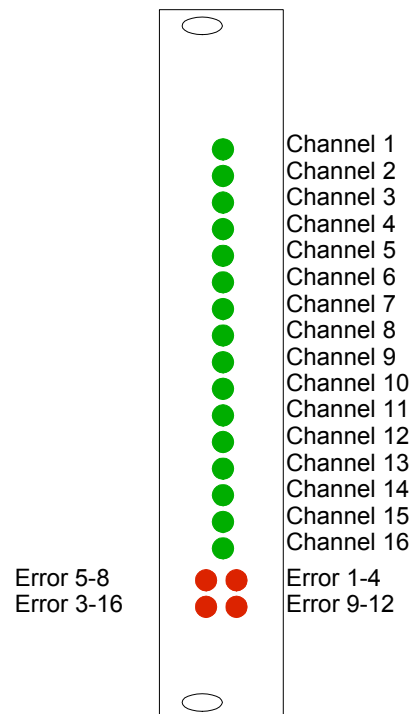


Figure 2: Front panel

## Pin Assignment VG Connector

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

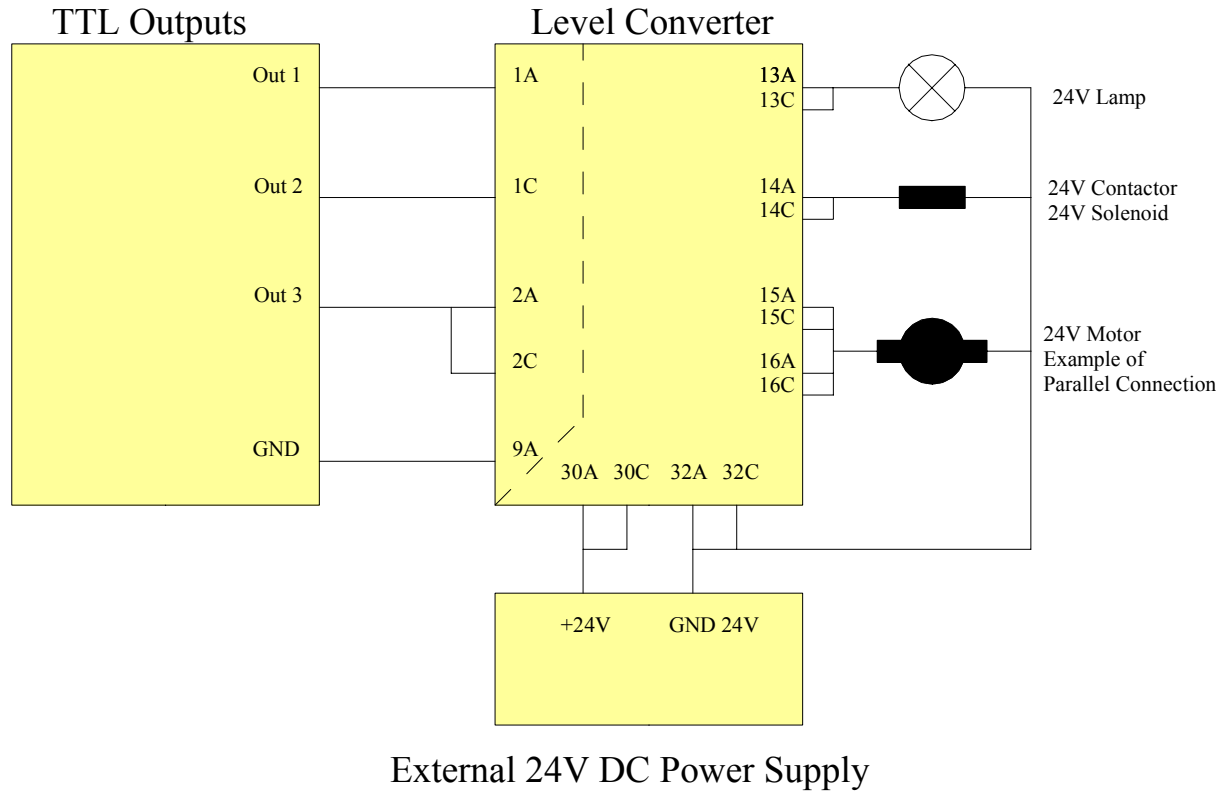


Figure 3: Sample Circuit

### Technical Data

Parameter	Condition	Typical	Limit
Supply Voltage	-	24V	21,6V – 26,4V
Input Logic Low	-	0,8V	0,8V
Input Logic High	-	2,5V	2,5V
On Delay Time	Iout = 1A-	5µs	10µs
On Time	Iout = 1A	7µs	15µs
Off Delay Time	Iout = 1A	0,5µs	2µs
Off Time	Iout = 1A	0,15µs	1µs

Table 2: Technical Data

## Ordering Details

The Oder Number is: **TE0101-00**

## History

Rev.	Date	Who	Description
1.0	22.03.2003	TT	erstellt

**Table 3: History**