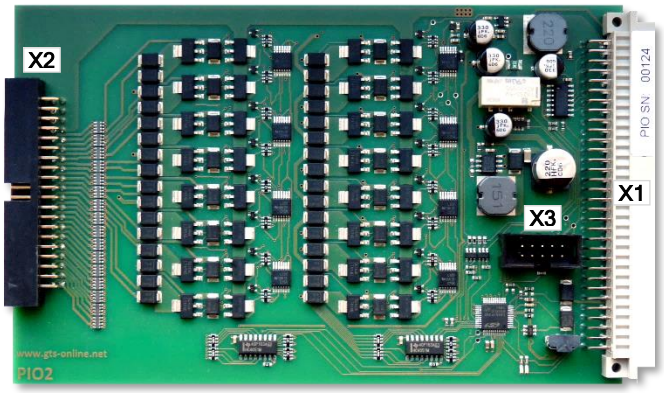
GTS TEST SOLUTIONS GUARDIAN TEST SYSTEM Item no. 12080

PIO2

Features

- 16-channel I/O board
- 500 mA high side and low side driver
- 5V to 32V logic level
- Clock generator with PWM



The PIO2 board is a digital I/O board with 16 channels. Each channel features a high side and low side driver with a 500mA capacity The high side drivers can either switch between the internal 5V or external voltages up to 32V. The channels can be switched individually or in groups. In addition, the firmware can output frequencies up to 12 kHz to the outputs.

Each channel can be configured as an input. A comparator generates the high/low status of the applied signals using a programmable trigger threshold. This allows the digital information to be read and the logic level to be checked.

Application

- Communication with digital assemblies
- Integration of PLC into the test system
- Direct switching of the relay, solenoid valves, etc.
- Pulse and clock generator
- Signal generator for assemblies with PWM control

Addressing

The PIO2 base address in the Guardian test system is 240 and is configured by the software. WinGuard software supports up to 4 boards.

Specification

Operating voltage	5V ± 0.25V
Current consumption	max. 250mA
Number of channels	16
Logic level	5V to 32V
Current carrying capacity	500mA for each channel
Safety features	Short-circuit and surge protection up to 40V
Drivers	ITS 4140N and BSP75N
Clock generator	0.1 Hz to 12000 Hz, switchable to one or several channels
Trigger threshold	0.1 to 30V for high/low differentiation
Input resistance	1 MΩ in input mode
Interface	RS-422 Guardian log
X1 connector	64-pin multipole connector DIN 41612
X2 connector	40-pin header RM 2.54, 90°
X3 connector	10-pin header RM 2.54, API
Dimensions	160 x 100 mm

Pinout

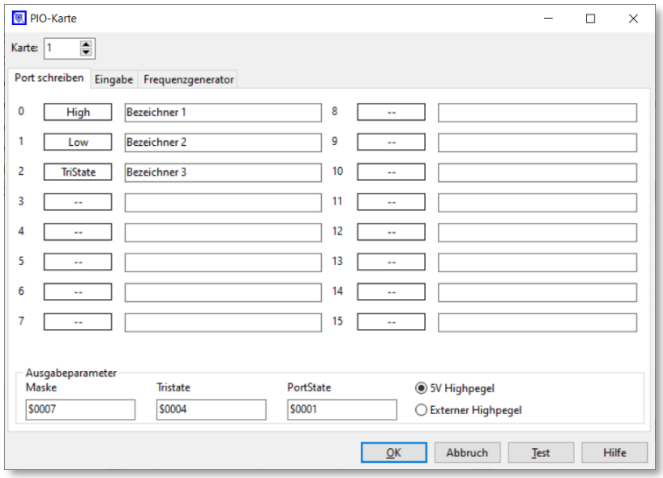
X1 connector

Pin	Signal
AC1	+5 V
A2	GND
C2	RXD +
A3	RXD -
C3	GND
A4	TXD +
C4	TXD -
AC5	GND
AC32	GND

X2 connector

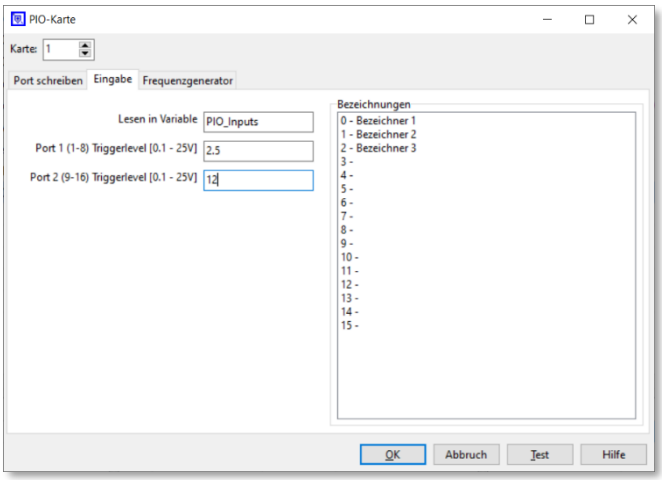
Pin	Signal	Pin	Signal
1	U1	2	Channel 1
3	U2	4	Channel 2
5	U3	6	Channel 3
7	U4	8	Channel 4
9	U5	10	Channel 5
11	U6	12	Channel 6
13	U7	14	Channel 7
15	U8	16	Channel 8
17	U9	18	Channel 9
19	U10	20	Channel 10
21	U11	22	Channel 11
23	U12	24	Channel 12
25	U13	26	Channel 13
27	U14	28	Channel 14
29	U15	30	Channel 15
31	U16	32	Channel 16
33	NC	34	NC
35	NC	36	NC
37	NC	38	NC
39	GND	40	GND

WinGuard



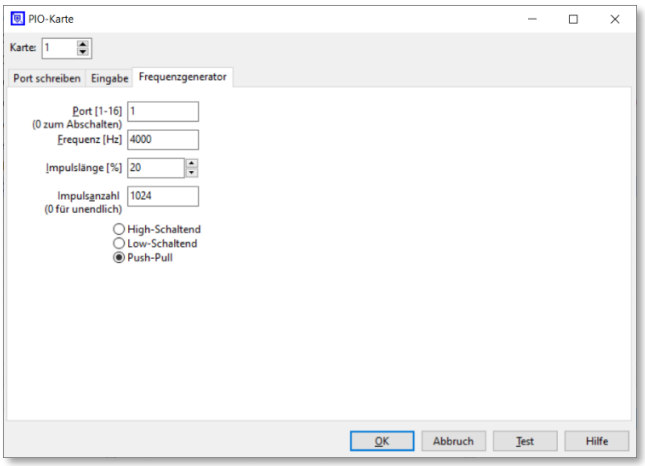
The ‘Write Port’ tab is used to configure the outputs. Each channel can be assigned a name. [- -] indicates that no changes have been made to the channel.

The ‘Input’ tab is used to set the trigger threshold and



assign the binary status of the specified variables. Only channels with the ‘Tri-state’ configuration (high impedance) can be used as inputs.

WinGuard



The 'Frequency Generator' can be used to output pulses to the specified channel. The frequency can be programmed within the range of 0.1 to 12000 Hz. The pulse duration, i.e. duty cycle, can be configured as an integer within the range of 1 to 99%, whereby the minimum duration of 42 µs must be met.

The number of pulses can be set within the range of 1 to 65535; the value 0 will produce a continuous signal without any pulse limitation.

Mode definition

- High switching: the low side driver remains passive
- Low switching: the high side driver remains passive
- Push-pull: high side/low side drivers switch alternately