PXI · PCI Guide

PXI / PCI modules for Automotive Test Solutions

GOPEL electronic

Enjoy Testing

Single components

PXI 3060

MOST25 Controller

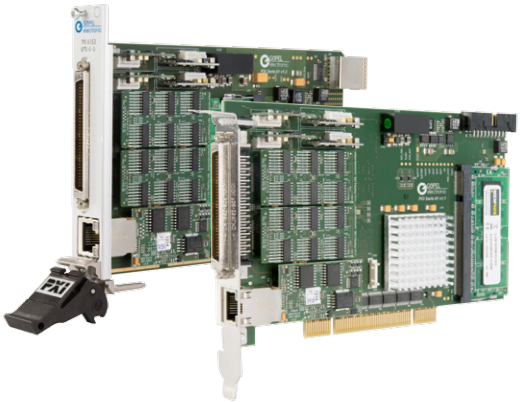
- MOST protocol with up to 25 Mbit/s
- real-time capability with intelligent MOST controller
- supports MOST High protocol
- sends and receives MOST data packets
- diagnostics via the control channel and MOST High protocol
- LED status display
- analogue audio inputs and outputs
- unlock detection
- bypass mode
- ring break diagnostics

PXI 6161

MOST150 Controller

- MOST protocol for 150 Mbit/s oPHY
- choice of frame rate: 44.1 kHz / 48 kHz
- MOST High protocol V2.2 on packet / control channel
- onboard diagnostics via MOST High protocol V2.2 / TP2.0
- ring break diagnostics / ECL
- additional front-panel Ethernet port
- S/PDIF-input / output
- additional triggers-front-panel inputs / outputs
- two optional CAN and / or LIN interfaces

PXI/PCI 6153



CAN Controller

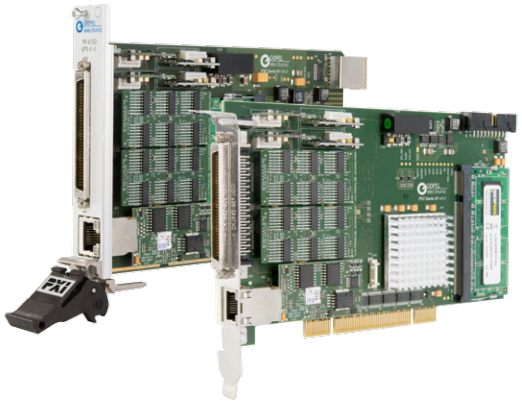
- CAN applications in the automotive industry
- up to four independent full CAN controllers
- CAN protocol acc. to specification 2.0 A / 2.0 B, CAN-FD
- real-time simulation of ECUs through „intelligent“ PowerPC-based CAN interface
- freely selectable transceiver for each CAN interface
- onboard functionality such as network management, diagnostics, residual bus simulation, special signals (checksums, counters, etc.)
- function range optionally extendable

PXI/ PCI 6173

LIN-/K-Line Controller

- LIN and K-Line applications, test systems in the automotive industry
- up to four independent LIN / K-Line interfaces
- LIN protocol acc. to Specification 2.0 / 2.1
- K-Line in accordance with ISO 9141
- variable transceiver supply
- every LIN interface can be configured separately as a master or slave
- onboard diagnostics functions for LIN and K-Line, residual bus simulation
- all interfaces electrically isolated
- function range optionally extendable

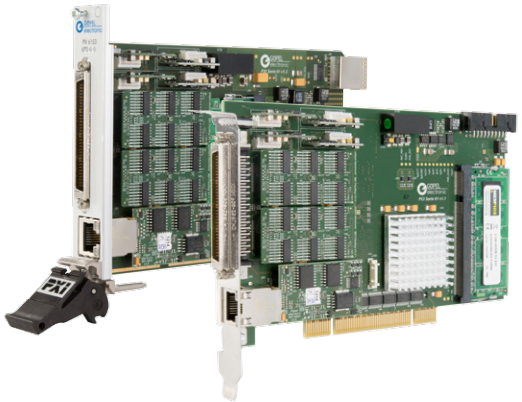
PXI/PCI 6181



Multibus Controller

- suitable for CAN and LIN applications, test systems in the automotive industry
- used for multibus ECUs
- 2 x CAN and 2 x LIN or K-Line
- all interfaces electrically isolated
- freely selectable transceiver for each CAN interface
- onboard functionality such as network management, diagnostics (via CAN, LIN, K-Line), residual bus simulation, special signals (checksums, counters)
- function range optionally extendable

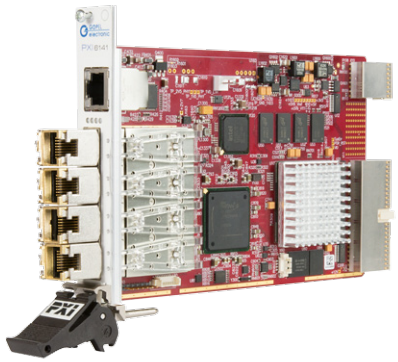
PXI/PCI 6191



FlexRay Controller

- FlexRay applications and test systems in the automotive industry
- two independent FlexRay nodes for cold-start capability
- supports A channel and B channel
- cyclical transmission of FlexRay messages
- event-based transmission of FlexRay messages
- monitoring of bus data and events with time stamp
- onboard functionality such as network management, diagnostics, residual bus simulation, special signals (checksums, counters)
- all interfaces electrically isolated
- function range optionally extendable

PXI 6141



BroadR-Reach Controller

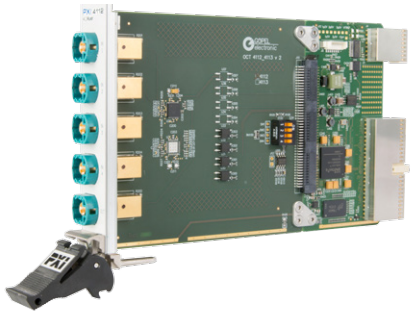
- up to four BroadR-Reach interfaces
- optional gigabit Ethernet RTPGE
- test pick-up on all interfaces via TAP matrix
- high-performance PowerPC as simulation processor
- gateway to CAN / CAN-FD and LIN
- trace data acquisition on all interfaces with precise hardware time stamp
- supports diagnostics over IP (DoIP)

Configuration overview · expansion capability of Series 61 modules

	PXI 6153 / PCI 6153	PXI 6173 / PCI 6173	PXI 6181 / PCI 6181	PXI 6191 / PCI 6191
port 1	CAN	LIN/K-Line	CAN	FlexRay
port 2	CAN	LIN/K-Line	LIN/K-Line	FlexRay
port 3	option 1	option 1	option 1	option 1
port 4	option 1	option 1	option 1	option 1
port 5	option 2	option 2	option 2	option 1
port 6	option 2	option 2	option 2	option 1
analog-/digital-I/O	option 3 / option 4	option 3 / option 4	option 3 / option 4	option 3 / option 4

option 1: one additional CAN or LIN / K-Line port // **option 2:** one additional FlexRay port // **option 3:** four additional digital inputs; four additional digital outputs; six analogue inputs; six analogue outputs // **option 4:** four additional digital inputs; four additional digital outputs; four analogue inputs; four analogue outputs

PXI 4112



LVDS Multiplexer

- 4:1 multiplexer signals up to 1.5 Gbit/s
- for distribution of LVDS signals acc. to ANSI / TIA EIA-644-1995
- signal repeater
- cascadable

PXI 4113

LVDS Splitter

- 1:4 splitter for LVDS signals up to 1.5 Gbit/s
- for distribution of LVDS signals acc. to ANSI / TIA EIA-644-1995 to eight outputs simultaneously
- signal repeater
- cascadable

Modules for LVDS: PXI, USB, Ethernet – to suit your particular needs!

		PXI	Stand-Alone*	USB*
Splitter	1:8	-	basicCON 4105	-
	1:4	PXI 4113	basicCON 4113	USB 4113
Multiplexer	4:1	PXI 4112	basicCON 4112	USB 4112
Frame Generator			basicCON 4121	
Frame Grabber			basicCON 4121	

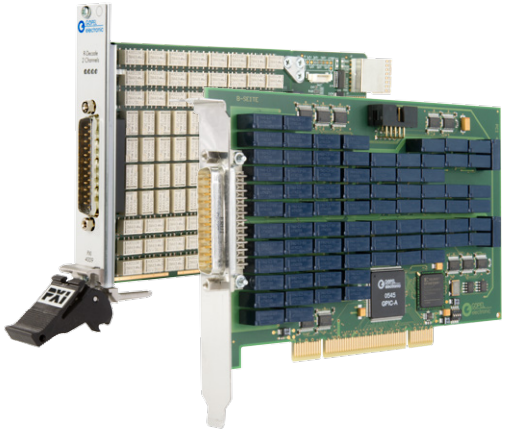
* found in the GÖPEL product overview

PXI 3250

CVT Meter

- general measurement and test systems
- function test
- signal monitoring
- measurement of currents, voltages and temperatures (PT1000) with 5-digit resolution
- autorange function for interruption-free current measurement across all measuring ranges
- up to four independent, electrically isolated measuring channels
- broad range of measuring probes available

PXI 4009 / PCI 4009



Resistance simulator / resistor box

- general measurement and test systems
- simulation of resistors, potentiometer with centre tap
- resistances from 1 Ω to 1 MΩ
- accuracy ±1%
- max. load 0.5 W

Breakout module active Series 61

- convenient access to Series 61 signals
- bus signals (CAN / LIN / K-Line / Flexray) on 9-pin DSUB sockets
- conventional signals (digital /analogue / PWM / SENT) on terminal strips
- power supply via plug-in adapter
- status LEDs for operating status display
- potential free relays, directly driven by digital outputs of Series 61

CAN lin K-Line FlexRay™

Breakout module passive Series 61

- convenient access to Series 61 signals
- Bus signals (CAN / LIN / K-Line / Flexray) and conventional signals (digital / analogue / PWM / SENT) on D-SUB sockets

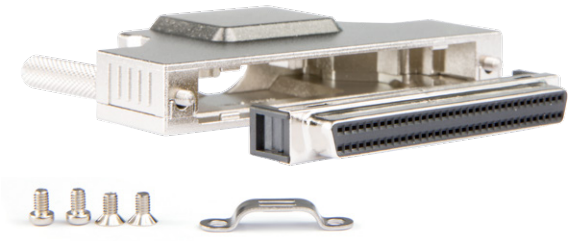
CAN lin K-Line FlexRay™

Breakout module for MOST Controller 6161

MOST

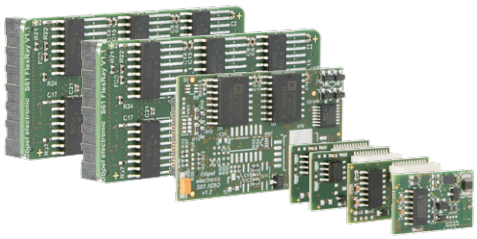
- for connecting the MOST 6161 controller using 50-pin connectors
- 2 x 9-pin D-SUB for interfaces
- 1 x 15-pin D-SUB for triggers
- external power supply (4-mm banana)
- ECL port (Electronic Control Line)
- SPDIF IN / OUT
- HDMI out

Series 61 connector



- 68-pin connector kit
- for assembly of customised connecting cables

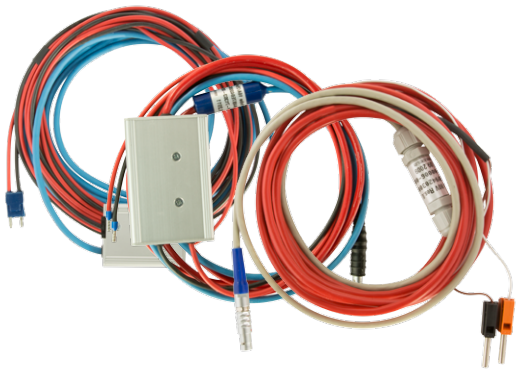
Series 61 expansion modules



- CAN transceiver modules:
  - *TJA1044GT - CAN FD*
  - *TJA1041A – high-speed CAN*
  - *TJA1054 – low-speed CAN*
  - *NCV7356D1G – single wire CAN*
- LIN transceiver module TJA1020
- K-Line transceiver module L9637
- FlexRay transceiver module TJA1080
- analogue / digital I/O modules
- with various voltage ranges

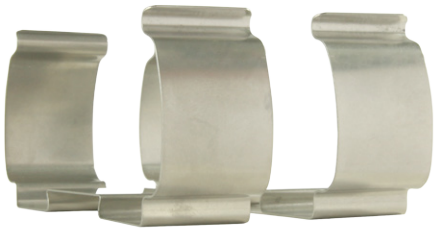
Further types are available on request.

Measurement samples for the PXI 3250 CVT meter



- Available test samples:
  - *Voltage measurement*
  - *Current measurement*
  - *Temperature measurement*

Assembly clamp for active Breakout module S61



- for wall-mounting

Software

myCAR™

Modular software suite for ECU testing

myCAR™ is a compact, easy-to-operate software suite for quick, uncomplicated daily use of control devices. The interactive software is geared to the existing interface modules and can be equipped with different communication modules.

Program generator

Test sequencer software

The program generator is software designed to create test sequences based on ready-made test steps from a macro library. Each macro can be operated via a graphical interface. A broad range of automation functions (scripting, XSLT, SQL) make programming easy and enable flexible design of test sequences and protocols.

Net2Run configurator

Residual bus simulation and gateway

Net2Run provides an efficient solution for creating complex, signal-based residual bus simulations for heterogeneous vehicle networks.

The AUTOSAR approach of uniform signal access and the PDU concept for the CAN, LIN and FlexRay bus have been implemented here. Thus alongside the classic residual bus simulation, gateways can also be realised at the signal
and PDU level.

Configuration takes place via the Net2Run configurator based on CAN, LIN or FIBEX message catalogues (*.dbc, *.ldf, *.xml).

Net2Run IDE

The Series 61 interface modules enable users to load their own code (onboard programs) onto the card and run it directly from the card.

Net2Run IDE is a complete C/C++ development environment for this purpose, in which users can develop, edit, debug and run onboard programs.

The GÖPEL API – familiar from Series 61 integration in Windows programs – is available as an onboard API, which greatly simplifies the creation of the onboard programs.

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ISO 9001 certified

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