64 Channel Opto I/O and Counter Board

ME-8100 - Industrial, Opto-Isolatede Control Board for 24 V Signals
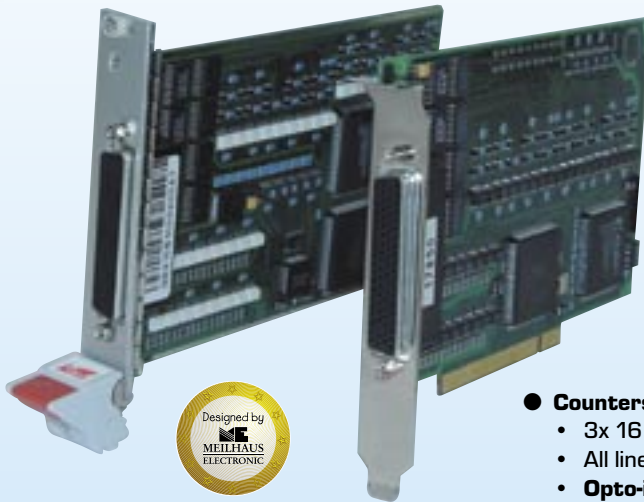
Model:
ME-8100

Platform:
- ☑ PCI
- ☑ PXI/cPCI
- ☐ USB
- ☐ Other

Functions:
- ☐ Analog I/O
- ☑ Digital I/O
- ☐ Temp./°C
- ☐ Interfaces
- ☐ Instrument
- ☐ Logger
- ☑ Isolation
- ☐ Accessory
- ☐ Software

Designed by
MEILHAUS ELECTRONIC

● Opto digital I/O:
  - Digital I/O channels, **opto-isolated. Isolation up to 1 kV.**
  - ME-8100A: 16/16 opto I/Os.
    ME-8100B: 32/32 opto I/Os.
  - Inputs/outputs for 24 V operation.
  - Outputs **stable during PC power-on:** No voltage peaks.
  - **Source/sink software selectable**.
  - Can be used to monitor status changes, with interrupt generation.
  - Bit pattern comparator, 16 bit. Interrupt generation on comparison positive.

● **Counters:**
  - 3x 16 bit counters.
  - All lines wirde to connector. For 24 V operation.
  - **Opto-isolation up to 1 kV.**

● PCI Local Bus 2.1 compatible. Plug'n'Play. Available as StandardPCI or 3 U PXI/CompactPCI versions.

Software:

ME-Power-CD included:
- Drivers for **Windows** XP, 2000, 98/Me, NT. Visual C++, Delphi, Visual Basic and Borland C/C Builder supported.
- Drivers for **Agilent VEE**, **LabVIEW**.
- Drivers for **Linux** (source code under GPL).
- Drivers for **VxWorks** 5.4.2.
- Drivers for **QNX** (source code under QNX Community License).
- Utilities, examples, demos.
- "Soft manuals" in English and German for Acrobat Reader/PDF.

Ordering Codes:

ME-8100A PCI

PCI board. 24 V opto channels, 16 input, 16 outputs, 3 counters 16 bit

ME-8100B PCI

PCI board. 24 V opto channels, 32 inputs, 32 outputs, 3 counters 16 bit

ME-8100A cPCI

ME-8100B cPCI

see above, but models for PXI/CompactPCI

ME-8100 Starter-Kits

Bundles with opto I/O board and accessories (cable + terminal block)
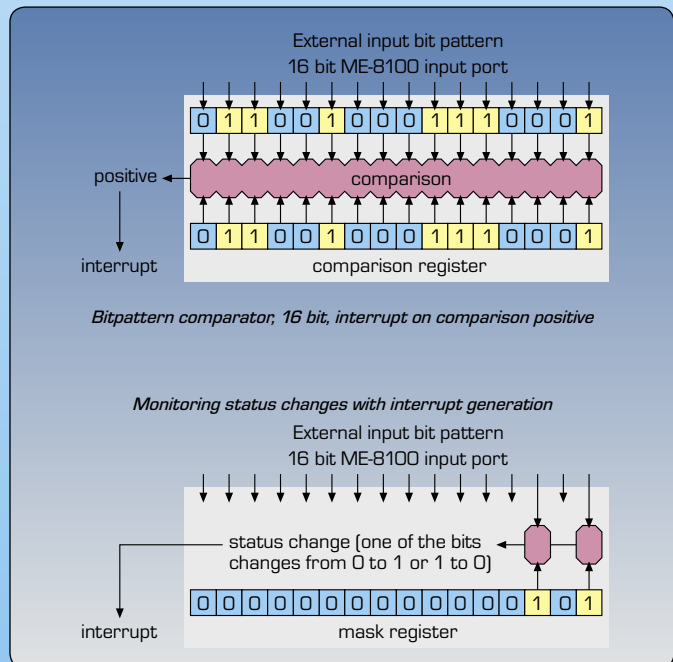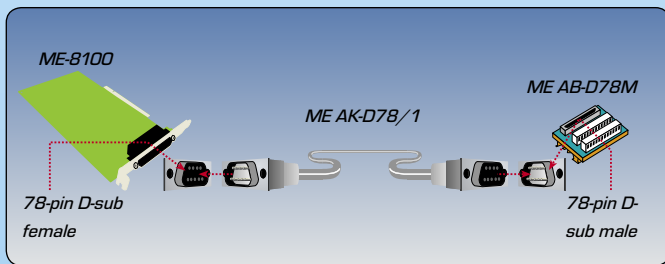
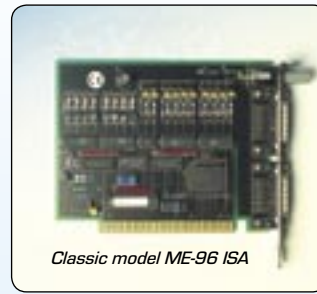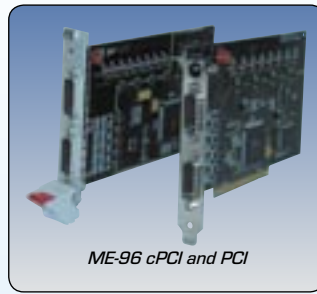| Accessories:	
Cable ME AK-D78/1	**1 m**
Cable ME AK-D78	**2 m**

78-pin D-sub male-female (1:1 wired). Connects ME-8100 and terminal block or user application

Terminal block ME AB-D78M

78-pin D-sub male and spring terminals

Web Link: www.meilhaus.com/e_me

ME-8100

ME AK-D78/1

ME AB-D78M

78-pin D-sub female

78-pin D-sub male

External input bit pattern
16 bit ME-8100 input port

positive ← comparison

interrupt · comparison register

Bitpattern comparator, 16 bit, interrupt on comparison positive

Monitoring status changes with interrupt generation

External input bit pattern
16 bit ME-8100 input port

status change (one of the bits changes from 0 to 1 or 1 to 0)

interrupt · mask register

Digital IO
- Digital IO Easy
- Digital Comparison
- Digital Out Step-by-Step

ME-8100 cPCI and PCI

ME-96 cPCI and PCI

Classic model ME-96 ISA

Classic model ME-81 ISA

Model Overview:						ME-8100, ME-81, ME-96/5/4, ME-630	
24 V Opto-Isolated Digital-		Isolated Counters	Relais	TTL Digital I/Os	Bit Pattern Comparator	Model	Bus
Inputs	Outputs						
16	16	3 (16 bit)	-	-	√ 16 bit	ME-8100A PCI	PCI
32	32	3 (16 bit)	-	-	√ 2x 16 bit	ME-8100B PCI	PCI
16	16	3 (16 bit)	-	-	√ 16 bit	ME-8100A cPCI	PXI/CompactPCI
32	32	3 (16 bit)	-	-	√ 2x 16 bit	ME-8100B cPCI	PXI/CompactPCI
8	-	-	8 or 16	26[3]	-	ME-630 PCI	PCI
8	-	-	8 or 16	8 inputs, 2 IRQ	-	ME-630 cPCI	PXI/CompactPCI
18[1]	-	-	-	-	-	ME-94 PCI	PCI
-	16	-	-	-	-	ME-95 PCI	PCI
10[2]	8	-	-	-	-	ME-96 PCI	PCI
18[1]	-	-	-	-	-	ME-94 cPCI	PXI/CompactPCI
-	16	-	-	-	-	ME-95 cPCI	PXI/CompactPCI
10[2]	8	-	-	-	-	ME-96 cPCI	PXI/CompactPCI
16	-	-	-	-	-	ME-632	external[5]
-	16	-	-	-	-	ME-633	external[5]
8	8	-	-	-	-	ME-634	external[5]
8	-	-	-	-	-	ME-UBOI	external[6]
-	8	-	-	-	-	ME-UBOO	external[6]
18[1]	-	-	-	-	-	ME-94 ISA	ISA[4]
-	16	-	-	-	-	ME-95 ISA	ISA[4]
9[2]	8	-	-	-	-	ME-96 ISA	ISA[4]
16	16	-	-	-	√ 16 bit	ME-81 ISA	ISA[4]

1) Two of the inputs can alos be used as isolated interrupt lines.

2) One of the inputs can be used as isoliated interrupt line.

3) 16 TTL digital I/O channels, 8 TTL digital inputs, 2 TTL interrupt inputs.

4) "Classic" ISA models available while supplies last. After that, boards can be ordered in larger quantities only for support of running applications.

5) DIN rail mountable board. Controlled by a ME-1000, ME-1400, ME-630, MEphisto Switch, ME-Jekyll, ME-FoXX, ME-6000/ME-6100.

6) Desktop boxes. Controlled by a ME-1400, ME-FoXX, ME-Jekyll, ME-6000/ME-6100, ME-630, MEphisto Switch, MEphisto Scope 1, USB MiniDAQ Labs ME-RedJack PMD-1008, LabJack U12.

Specifications:

Opto Inputs (24 V)

Number	ME-8100A: 16; ME-8100B: 32. Switching frequency max. 6 kHz. Isolation up to 1 kV. Level typ. 24 V
Operating modes	Simple read. Bit pattern comparator: Programmable, 1x (model A) or 2x (model B) 16 bit wide, interrupt on comparison positive. Bit change: A bit selected/set in the mask register will generate an interrupt, whenever the corresponding input changes its status. If more than one bit is set in the mask register, an interrupt will be generated, if at least one of the related inputs changes its status

Opto Outputs (24 V)

Number	ME-8100A: 16; ME-8100B: 32. Switching frequency max. 6 kHz. Isolation up to 1 kV. Level typ. 24 V (depending on external power supply)
Driver	Each port programmable as source or sink driver
Current	Depending on number of channels per chip in use 250...500 mA

Counters

Number	3 independent 16 bit counter (82C54). All pins opto-isolated up to 1 kV. Level typ. 24 V (depending on external power supply)
Counter clock	External up to max. 1 MHz

General Data

Bus interface	32 bit StandardPCI bus or PXI/CompactPCI bus. PCI Local Bus 2.1 compatible
Size (mm)	PCI: ~174 x 98; PXI/CompactPCI: 160 x 100 (3 U Europa card format)
Connector	78-pin D-sub female