

# External Expansion with Relays, Opto-Isolation

ME-63Xtend, ME-UB - Connectivity Board or Desktop Box Series

**Model:**

ME-63Xtend  
ME-UB

**Platform:**

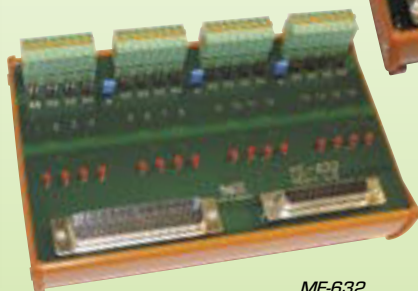
- PCI
- PXI/cPCI
- USB
- Other

**Functions:**

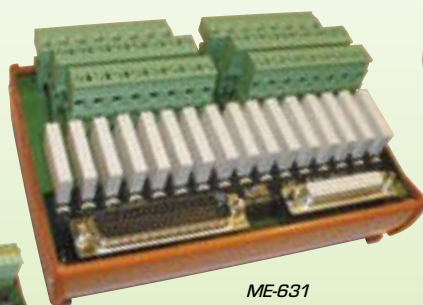
- Analog I/O
- Digital I/O
- Temp./°C
- Interfaces
- Instrument
- Logger
- Isolation
- Accessory
- Software

ME-63Xtend

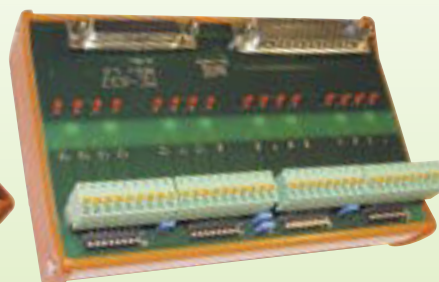
ME-UB



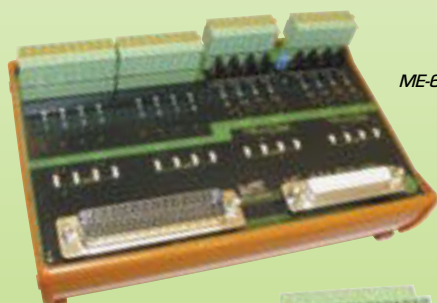
ME-632



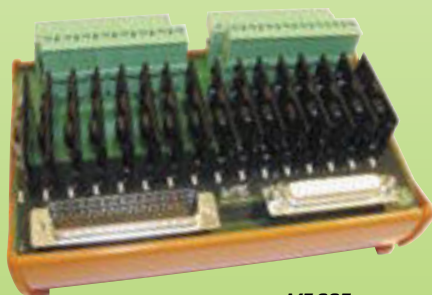
ME-631



ME-633



ME-634



ME-635



ME-UBRE



ME-UBOI



ME-UBOO

● **ME-63Xtend series:**

- External universal connectivity boards.
- **Sophisticated, low cost, reliable and well structured expansion system.**
- Expands the TTL digital I/O channels of digital or multi I/O DAQ boards.
- Expands the digital channels with **opto-isolation** or **relays**.
- **DIN rail mountable modules.**
- **Reliable, pluggable, easy to open** spring terminals for the I/O lines.
- Cables available for use with ME-1000, ME-1400(A), ME-FoXX series, ME-630/MEphisto Switch, ME-6000 and ME-6100.
- Can be used with **PCI or PXI/CompactPCI models.**
- Digital I/O board ME-1000 can control up to 8 ME-63Xtend boards, i. e. **128 channels** with **relays** and/or **opto I/O!**
- 1 status LED per channel.

● **ME-UB series:**

- External universal connectivity boxes.
- **Sophisticated, low cost, reliable and well structured expansion system.**
- Expands the TTL digital I/O channels of digital or multi I/O DAQ boards.
- Expands the digital channels with **opto-isolation** or **relays**.
- Mini desktop boxes.
- **Reliable, easy to open** spring terminals for the I/O lines.
- Cables available for use with ME-1400, ME-FoXX series, ME-630/MEphisto Switch, ME-6000 and ME-6100, USB mini DAQ labs LabJack U12, ME-RedJack PMD-1008 and USB Scope MEphisto Scope 1.
- Can be used with **PCI or PXI/CompactPCI models.**
- Digital I/O board ME-1400 can control up to 3 ME-UB boxes, i. e. **24 channels** with **relays** and/or **opto I/O!**
- 1 status LED per channel.
- Power supply via external power adaptor (optional).

**Ordering Codes:**

**ME-63Xtend Series - Europa Cards with DIN Rail Mountable Card Carrier:**

**ME-631**

16 type C/change over relays, 5 A/30 VDC, 240 VAC

**ME-632**

16 opto-isolated digital inputs, 2.5 - 60 V

**ME-633**

16 opto-isolated digital outputs, 0.6 - 60 V

**ME-634**

8/8 opto-isolated digital inputs/outputs

**ME-635**

16 solid state relays, 5 A/240 VAC

**MW17-GS/6**

12 V/500 mA power adaptor for ME-UB

**ME-UB Series - Connectivity Boxes:**

**ME-UBOI**

8 opto-isolated digital inputs, 2.5 - 60 V

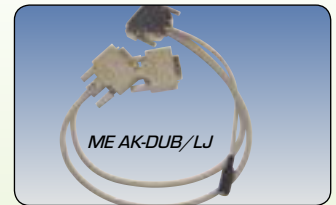
**ME-UBOO**

8 opto-isolated digital outputs 0.6 - 60 V

**ME-UBRE**

8 Type C/change over relays, 5 A/240 VAC

**Web Link:** [www.meilhaus.com/e\\_me](http://www.meilhaus.com/e_me)



### Ordering Codes - Accessories:

**For ME-FoXX, ME-Jekyll, ME-630<sup>1)</sup>, MEphisto Switch, ME-6x00<sup>1)</sup>:**

**Cable ME AK-D2578/4000**

25-pin D-sub male to 78-pin D-sub female, connects board with 1x ME-63Xtend

**Cable ME AK-D2515/4000**

25-pin D-sub male to 2x 15-pin D-sub male, connects board with 2x ME-UB

**For ME-1400 Family:**

**Cable ME AK-D78/1** **1 m**

**Cable ME AK-D78** **2 m**

78-pin D-sub male-female, 1:1. Connects ME-1400(A) and 1x ME-63Xtend

**Cable ME AK-D25** **2 m**

25-pin D-sub male-female, 1:1. Connects remaining ME-1400(A) signals from the ME-63Xtend with a terminal block

**Terminal block ME AB-D25M**

25-pin D-sub male to spring terminals

**Cable ME AK-D7815/1400**

78-pin D-sub male to 3x 15-pin D-sub male. Connects ME-1400 + 3x ME-UB

**For ME-1000 Family:**

**Cable ME AK-D78/1000 (1 m)**

78-pin D-sub male to 2x 78-pin D-sub female. Connects ME-1000 or ME-1001 with 2x ME-63Xtend

**Cable ME AK-D2578/1000**

25-pin D-sub male to 78-pin D-sub male. Connects 1x ME-63Xtend at ME-1000 with a second ME-63Xtend in "daisy-chain"

**For USB Mini DAQ Labs<sup>2)</sup>:**

**Terminal box ME-UB15**

**Terminal box ME-UB37**

15 or 37 spring terminals (ME-UB37 for ME-RedJack PMD-1008 only)

**Cable ME AK-DUB**

Tripple split cable, 37-pin D-sub female to 3x 15-pin D-sub male + low voltage connector. For ME-RedJack PMD-1008, not for ME-UB37

**Cable ME AK-D37**

37-pin D-sub male-female, 1:1, for ME-RedJack PMD-1008 with ME-UB37

**Cable ME AK-DUB/LJ**

Double split cable, 25-pin d-sub male to 2x 15-pin D-sub male + low voltage connector. For LabJack U12 + ME-UB boxes (except ME-UB37)

**Web Link: [www.meilhaus.com/e\\_me](http://www.meilhaus.com/e_me)**

### Specifications and Model Overview:

Model	Relays: <b>ME-631</b>	Relays: <b>ME-UBRE</b>	Opto Inputs: <b>ME-632/ ME-UBOI</b>	Opto Outputs: <b>ME-633/ ME-UBOO</b>	Opto I/O: <b>ME-634</b>	SSRs: <b>ME-635</b>
<b>ME-63Xtend</b>		-				
<b>ME-UB</b>	-				-	-
<b>Relays</b>	16 relays type C (change over)	8 relays type C (change over)	-	-	-	16 solid state-relays
<b>Data</b>	5 A/30 VDC or 240 VAC	5 A/240 VAC	-	-	-	5 A/240 VAC.
<b>Opto-isolated digital inputs</b>	-	-	ME-UBOI: 8. ME-632: 16 <sup>3)</sup>	-	8 <sup>3)</sup>	-
<b>Data</b>	-	-	2.5...60 V, 12 kHz, isolation up to 2500 VAC <sub>RMS</sub>	-	2.5...60 V, 12 kHz, isolation up to 2500 VAC <sub>RMS</sub>	-
<b>Opto-isolated digital outputs</b>	-	-	-	ME-UBOO: 8 ME-633: 16 <sup>4)</sup>	8 <sup>4)</sup>	-
<b>Data</b>	-	-	-	0.6...60 V, 5 kHz, 300 mA <sub>Continuous</sub> / 400 mA <sub>Peak</sub> ; Isolation bis 2500 VAC <sub>RMS</sub>	0.6...60 V, 5 kHz, 300 mA <sub>Continuous</sub> / 400 mA <sub>Peak</sub> ; Isolation bis 2500 VAC <sub>RMS</sub>	-
<b>General Data:</b>	<b>ME-63Xtend Series</b>			<b>ME-UB Series</b>		
Display	1 status LED per channel			1 status LED per channel		
Connector to PC board	78-pin D-sub male			15-pin D-sub female		
Connector I/O chan.	Spring terminals			Spring terminals		
Remaining signals	25-pin D-sub female			-		
Connect to... (others as an option)	ME-1400, ME-1400A, ME-1000 (except ME-634), ME-FoXX series, ME-Jekyll, ME-630 <sup>1)</sup> /MEphisto Switch, ME-6000 <sup>1)</sup> , ME-6100 <sup>1)</sup>			ME-1400, ME-FoXX series, ME-Jekyll, ME-630 <sup>1)</sup> /MEphisto Switch, ME-6000 <sup>1)</sup> , ME-6100 <sup>1)</sup> , MEphisto Scope 1, ME-Red-Lab PMD-1008, LabJack U12		
Size (mm)	Europa card 160 x 100			Desktop box ca. 125 (L) x 74 (B) x 27 (H)		
Installation	DIN rail mountable card carrier incl.			- (desktop box)		

1) For the new board versions with additional digital ports.

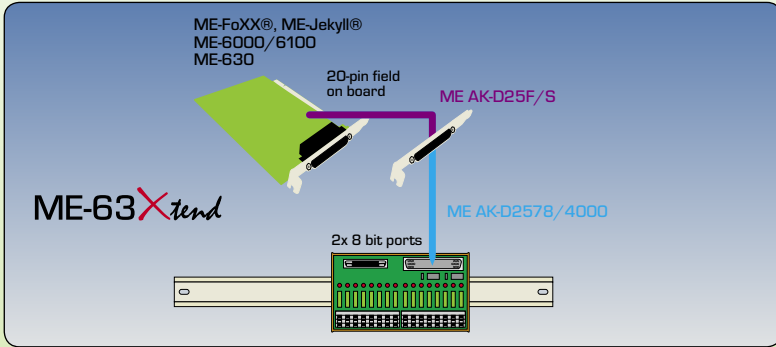
2) LabJack U12, ME-RedJack PMD-1008.

3) Individual wiring or in groups: Max. 4 channels can be related to a common power supply or GND. The single groups can again be connected together.

4) Individual wiring or in groups: Max. 8 channels can be related to a common power supply with a pull-up resistor. Max. 4 channels can be related directly to a common GND. The single groups can be connected together.

## Expand 16 DAQ Board Digital Channels with Relays or Opto-Isolation - DIN Rail Mountable Modules

For ME-FoXX and ME-Jekyll DAQ Boards, ME-6000/ME-6100<sup>11</sup> Analog Output Boards, Digital Board ME-630<sup>11</sup>/MEphisto



### ◆ Components you need:

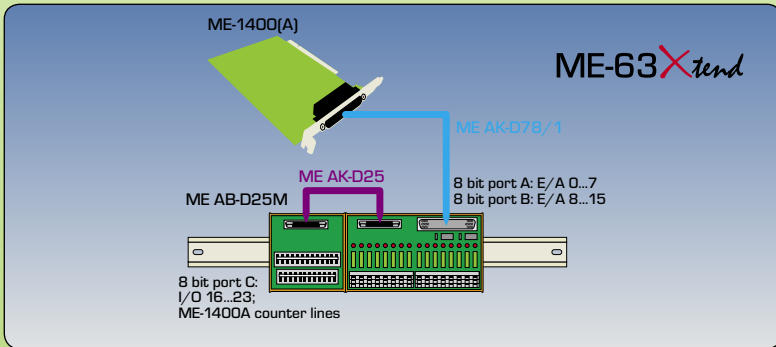
- One of the boards mentioned ①.
- ME AK-D25F/S (included with the boards, not required for MEphisto) ②.
- One ME-63Xtend series board of your choice. ③
- A cable ME AK-D2578/4000 ④.

### ◆ How to set-up the system:

- The boards mentioned above are connected to the ME-63Xtend boards using their TTL digital ports on board (pin field on board). The cable ME AK-D25F/S included with these boards has to be connected to the pin filed (exception: MEphisto Switch has a 25-pin D-sub, no additional ME AK-D25F/S required/included).
- Use the cable ME AK-D25/4000 to directly connect the ME-63Xtend board to the additional slot bracket/25-pin D-sub of the ME AK-D25F/S or MEphisto Switch.

## Expand 16 Digital Channels with Relays or Opto-Isolation - DIN Rail Mountable Modules

For TTL Digital I/O and Counter Boards ME-1400 and ME-1400A



### ◆ Components you need:

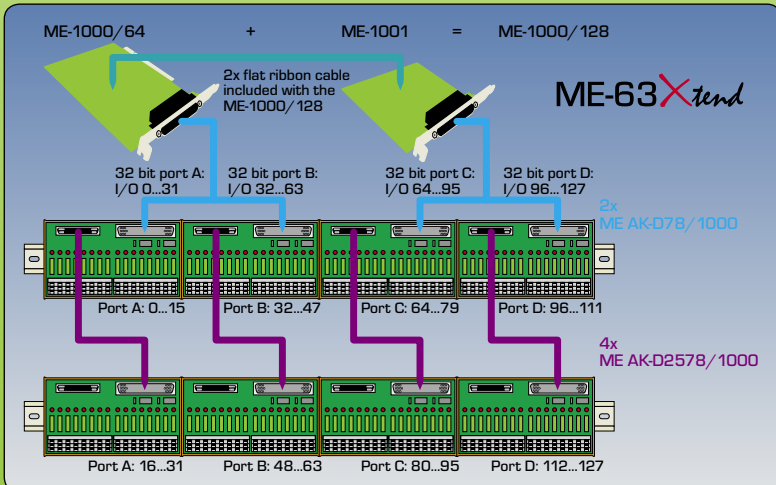
- One ME-1400 or ME-1400A ①.
- One ME-63Xtend series board of your choice ②.
- A cable ME AK-D78/1 ③.
- Option: One cable ME AK-D25 and a terminal block ME AB-D25M ④.

### ◆ How to set-up the system:

- Use the cable ME AK-D78/1 to directly connect the ME-63Xtend to the ME-1400 or ME-1400(A).
- If needed, the remaining signals of the ME-1400(A) (digital I/O port C, 3 counters) are wired to the 25-pin D-sub female on the ME-63Xtend and can be continued with a 25-pin D-sub cable ME AK-D25 and a terminal block ME AK-D25M.

## Expand up to 64 or 128 Digital Channels with Relays or Opto-Isolation - DIN Rail Mountable Modules

For Multi-Channel TTL Digital I/O Boards ME-1000



### ◆ Components you need:

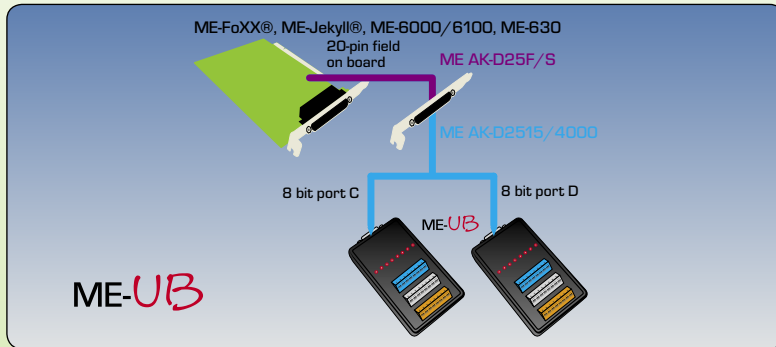
- One ME-1000/64 or ME-1000/128 ①.
- Up to 8 ME-63Xtend series boards of your choice ②.
- 1x or 2x cables ME AK-D78/1000 ③.
- Up to 4x cable ME AK-D2578/1000 ④.

### ◆ How to set-up the system:

- Use the cables ME AK-D78/1000 to directly connect up to 4 ME-63Xtend to the ME-1000 as shown in the picture on the left. Use up to 4 cables ME AK-D2578/1000 to connect one additional ME-63Xtend to each expansion board in "daisy-chain". Note: Only 2 ME-63Xtend boards can be "daisy-chained"!
- The picture describes a full configuration; reduced configuration are also possible.
- **Please note** that the I/O lines of the ME-1000 are grouped in 32 bit ports. Each port (i. e. all 32 lines of a port) can be programmed as input or output. So the boards in "daisy-chain" always have to be both input types or output types (including relay outputs). The ME-634 with 8 inputs and 8 outputs cannot be used together with the ME-1000.

## Expand 16 Digital Channels on DAQ Boards with Relays or Opto-Isolation - Desktop Connectivity Boxes

For ME-FoXX and ME-Jekyll DAQ Boards, ME-6000/ME-6100<sup>1)</sup> Analog Output Boards, Digital Board ME-630<sup>1)</sup>/MEphisto



### ◆ Components you need:

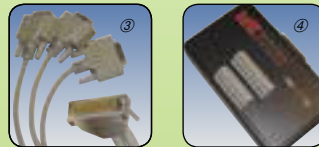
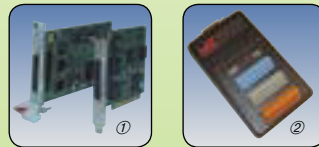
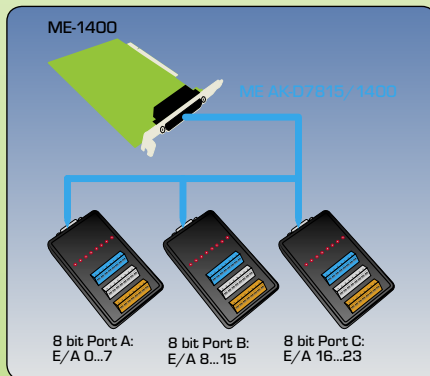
- One of the DAQ boards mentioned ①.
- ME AK-D25F/S (included with the boards, not required for MEphisto Switch) ②.
- Two ME-UB series boxes of your choice. ③
- A cable ME AK-D2515/4000 ④.

### ◆ How to set-up the system:

- The boards mentioned above are connected to the ME-UB boxes using their TTL digital ports on board (pin field on board). The cable ME AK-D25F/S included with these boards has to be connected to the pin field [exception: MEphisto Switch has a 25-pin D-sub, no additional ME AK-D25F/S required/included].
- The split/breakout cable ME AK-D2515/4000 directly connects 2 ME-UB to the additional slot bracket/25-pin D-sub of the ME AK-D25F/S or MEphisto Switch.

## Expand 24 Channel with Relays or Opto-Isolation - Desktop Connectivity Boxes

For TTL Digital I/O and Counter Boards ME-1400 and ME-1400A



ME-UB

### ◆ Components you need:

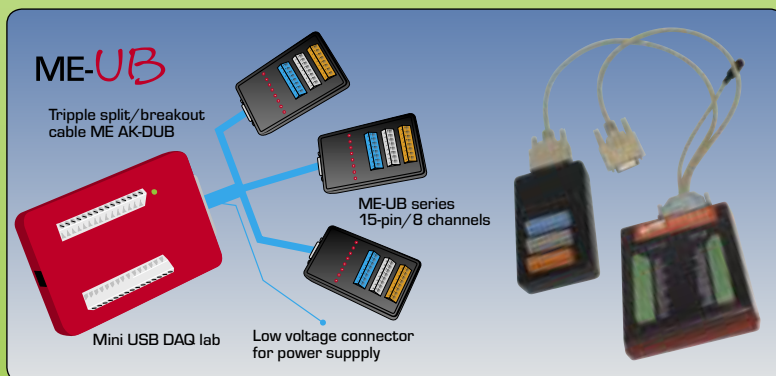
- One ME-1400 or ME-1400A ①.
- Three ME-UB series boxes of your choice ②.
- A split/breakout cable ME AK-D7815/1400 ③.

### ◆ How to set-up the system:

- Use the cable ME AK-D7815/1400 to directly connect up to three ME-UB boxes to the ME-1400.
- If you want to use one or two ports with standard TTL level, just replace one or two ME-UB boxes with 15-pin terminal blocks ME AB-D15F or ME-UB15 ④.

## Expand the Digital Channels of USB Mini DAQ Labs with Relays or Opto-Isolation

For ME-RedJack PMD-1008 and LabJack U12



### ◆ Components you need:

- One USB mini DAQ lab LabJack U12 ① or ME-RedJack PMD-1008 ③.
- Two (for LabJack U12) or three (for ME-RedJack PMD-1008) ME-UB series boxes of your choice ⑤.
- One dual or tripple split/breakout cable ME AK-DUB/LJ (LabJack U12) ② or ME AK-DUB (ME-RedJack PMD-1008) ④.

### ◆ How to set-up the system:

- Connect up to 2 ME-UB series boxes to the LabJack U12 or up to 3 ME-UB series boxes to the ME-RedJack PMD-1008 with a split cable.
- Connect supply power to the low voltage connector.
- The ME-RedJack PMD-1008 ③ digital I/O channels can also be connected to spring terminals without any additional functions, using the ME-UB37 ⑦. Use the standard cable ME AK-D37 ⑥ in this case.

### Software:

The ME-63Xtend boards and ME-UB universal boxes are **totally software transparent. No special additional driver software is required.** Existing software **does not have to be changed**, when using the ME-63Xtend or ME-UB with PCI or PXI/CompactPCI TTL digital I/O boards. The expansion boards or boxes are directly controlled by the digital I/O channels of the PCI, PXI or CompactPCI boards.



1) Models from January 2005 and later