



SPECTRUM

SYSTEMENTWICKLUNG MICROELECTRONIC GMBH

Option Extra I/O

- For all MI.xxxx boards available
- For all MC.xxxx boards available
- 24 additional static digital I/O
- 4 additional static analog outputs
- Signals available on extra slot bracket or internally
- Digital I/O: software selectable to input or output in groups of eight bit
- Analog outputs: ± 10 V with 12 bit resolution
- Unique Software interface



General Information

The extra I/O module is a piggyback module for all boards of the MI.xxxx and MC.xxxx series. It fits in the on-board expansion slot at the rear end of the board. With this simple-to-use enhancement it is possible to control a wide range of external instruments. The extra I/O module can be used instead of a complete Multi I/O board from third party. It is fitted well for OEM solutions and also for special applications.

There are two versions available. The -xmf version offers all 24 digital I/O and the 4 analog outputs with ± 10 V on an extra bracket. It is used to connect external instruments to the system. The -xio option only uses a small internal flat ribbon connector with 16 digital I/O and 4 analog outputs. With this it is possible to control internally connected instruments.

Applications

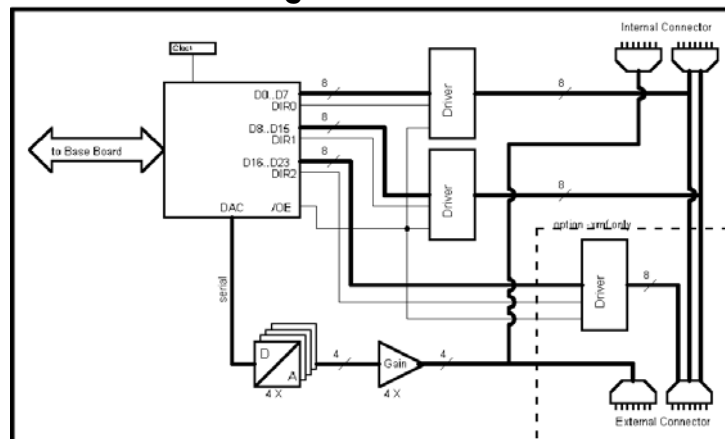
The extra I/O option is useful if an external amplifier should be controlled, any kind of signal source must be programmed, an antenna must be adjusted, a status information from external machine has to be obtained or different test signals have to be routed to the board.

Benefits

Compared to a third-party multi I/O board there's a variety of advantages:

- cost-reduction
- reduction of needed slots and space
- easy to program
- same software interface as MI.xxxx boards
- complete solution from one supplier

Hardware block diagram



Technical Data

Digital I/O

channels	24	output current (high level)	< -15 mA
output voltage high level	> 2.0 V (typ. 3.6 V)	output current (low level)	> +24 mA
output voltage low level	< 0.5 V	input current (high level)	< 0.3 mA
input voltage high level	> 2.0 V	input current (low level)	< -1.2 mA
input voltage low level	< 0.8 V	max. switching frequency	> 50 kHz

Power consumption (no term)

350 mA @ +5 V

Width (version -xio)

1 full size slot

External connector

40 pole Hirose FX2

Width (version -xmf)

2 full size slots

Internal connector

26 pole flat ribbon

Analog outputs

channels	4	output short-circuit to GND	max 1 minute
voltage range	-10 V ... +10 V	max. switching frequency	5 kHz
offset error	< ± 20 mV (4 LSB)	max. output current	10 mA
resolution	12 bit (1 LSB = 5 mV)	gain error (current value)	< ± 1 %
		output impedance	50 ohm

Order information

Order No	Description
MI.xxxx-xio	Extra I/O, internal connector: 16 DI/O, 4 Analog out
MI.xxxx-xmf	Extra I/O, external connector: 24 DI/O, 4 Analog out, incl. cable
MI.xxxx-dcab	Additional 40 pole flat ribbon cable with IDC socket connector, ca. 1 m

It is not possible to use this option together with the star hub or timestamp option.