

Operators manual

Crate ECH 228

Crate ECH 328

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Caution!

- It is not allowed to use the unit if the covers have been removed.

- We decline all responsibility for damages and injuries caused by improper use of the system. It is highly recommended to read the operator manual before any kind of operation!

Note:

All information in this document is subject to change without notice. We take no responsibility whatsoever for any error in this document. We reserve the right to make changes in the product design without any notification to the users.

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1. General information

The crates ECH 228 or ECH 328 are able to carry up to 8 Multi Channel HV-modules EHQ xxxx with 220 mm depth. The crates provide the necessary supply voltages and the connections for all remote control capabilities.

Options: - Remote control of all supply voltages via CAN BUS and switching.
- Integrated UPS (bridge time min. 1 min), with CAN-Interface only!

During operation enough air flow has to be given to the unit.

2. Technical data

	<u>ECH 228 M / 328 M</u>
AC supply voltage	230 V / max.10 A (fuses double sided)
DC supply voltages	+ 24 V (up to 25 A) + 5 V (up to 5 A)
Power total	max. 700 W *
Floating	Floating = max. difference of voltage between PE and GND: $\Delta V \leq 30 \text{ V} $, clamped via 2 anti- parallel suppressor-diodes with $V_z = 56 \text{ V}$
Mechanical layout	19" – Standard BIN / ca. 450 mm depth Module slot depth 220 mm CAN-connectors: 9-pin Sub-D
	ECH 228 M: height 6 U Cover - and bottom shield with air slots
	ECH 328 M: height 7 U PS and module slots with forced air cooling
Air cooling	ECH 228 M
	In case of desk operation, rack mounting and the use of several crates in stack forced air cooling has to be provided. Please use our 1U fan-unit for rack mounting, supplemented with mountable feet for desk operation.
	ECH 328 M
	Above and under the unit no extra room is necessary. The air flow slots in front and on rear side must be free. Free slots must be covered!

*1200 W on request.

3. PIN assignment

3.1. Module station

Connector			Description	Remarks	
1	a	b	c	+ 5 V	
3	a	b	c	+ 24 V	
4			c	I _{SL}	Connected to + 24 V with ca. 11 Ω / 3 W
5	a	b	c	GND	
11	a			CAN_GND	isolated
		b		CAN_L	
			c	CAN_H	
13	a			RESET	Connected to push button on front panel
		b			OFF with ramp (e.g. 10s after power fail)

Connector			Description	Remarks	
30	a			Bank_addr	module address b2 ⁴ , bank switch on front p.
		b		Bank_addr	module address b2 ⁵ , bank switch on front p.
31	a			Mod_addr	module address b2 ² , fix connected
		b		Bank_addr	module address b2 ³ , bank switch on front p.
			c	GND	
32	a			Mod_addr	module address b2 ⁰ , fix connected
		b		Mod_addr	module address b2 ¹ , fix connected
			c	GND	

3.2. External CAN-Bus

The external CAN-Bus to control the iseg **HV** module (CAN-HV) and the crate with the **optional** built-in CAN crate controller (CAN-CC) is connected through 9-pin Sub-D connectors on the front panel.

The CAN-Bus standard required a termination with 120 Ω between CAN_L and CAN_H on both ends. Please use the delivered CAN terminations (iseg Art-nr.: 510245 and 580591) on the crate side for that.

It is able to control the iseg-module and the crate controller with one CAN-Bus as a matter of principle (e.g. if "OUT" from CAN-HV is connected to "IN" from CAN-CC).

Input	Output	PIN	Signal	Description
9-pin Sub-D connector female	9-pin Sub-D connector male	2	CAN_L	
		3	CAN_GND	GND
		5	CAN_SHLD	Shield
		7	CAN_H	

4. Front panel / Operation

Module-RESET-push button

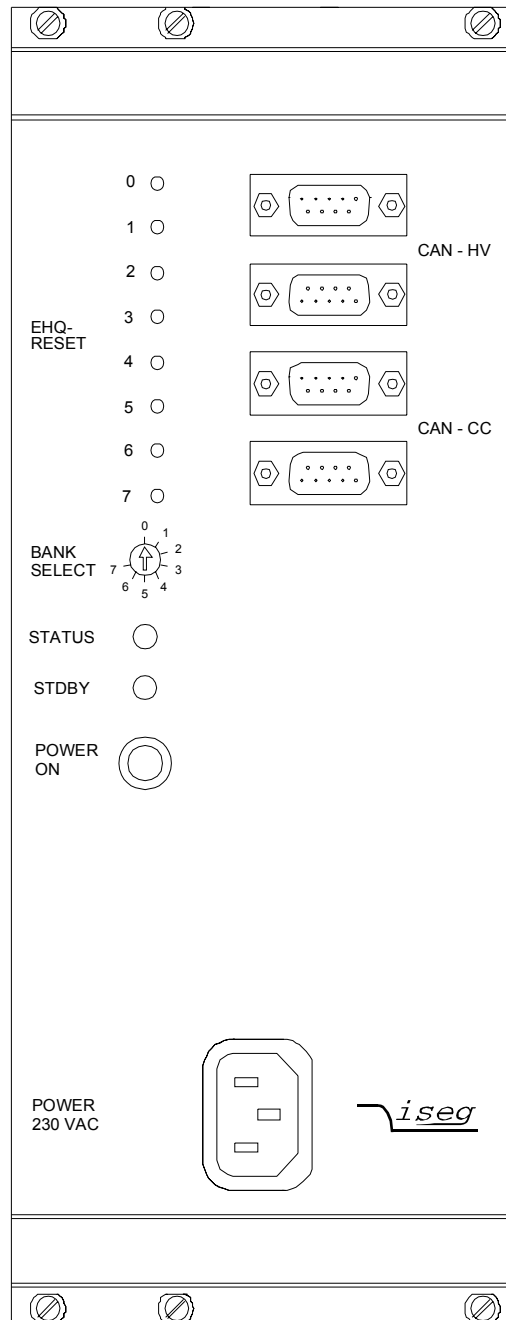
BANK-SELECT-switch
select bank with fixed Module address
(up to 8 Crates with 64 modules, see
„iseghvsystem.pdf“)

STATUS
POWER-ON (24V-DC O.K.) and
Option CAN: no error and
Option UPS: Battery load

STDBY
AC-supply ON
Option CAN: remote control possible

POWER-ON
ON – OFF switch 24V-DC Supply

AC-Power



2 • Sub-D-9
HV module CAN-Bus
(CAN-IN, termination or
CAN-OUT to more CAN
nodes)

Option CAN:
2 • Sub-D-9
crate controller CAN-Bus
(CAN-IN, termination or
CAN-OUT to more CAN
nodes)