DO-16-HC for imc CRONOS-XT (CRXT/DO-16-HC)

16 digital outputs with high output current capabilities

This DO-16-HC provide 16 isolated control signals with high output current capabilities. The signals' states can be generated by imc Online FAMOS as the result of calculation operations.

CRXT/DO-16-HC
(Fig. similar)

Highlights

- Isolated 8 Bit groups
- Configurable driver modes (Open Drain / Open Source / Totem Pole)
- Compatible with 5 V and 24 V voltage levels
- 0.7 A / Bit driver capability (source and sink)

imc CRONOS-XT - Maximizes flexible modularity

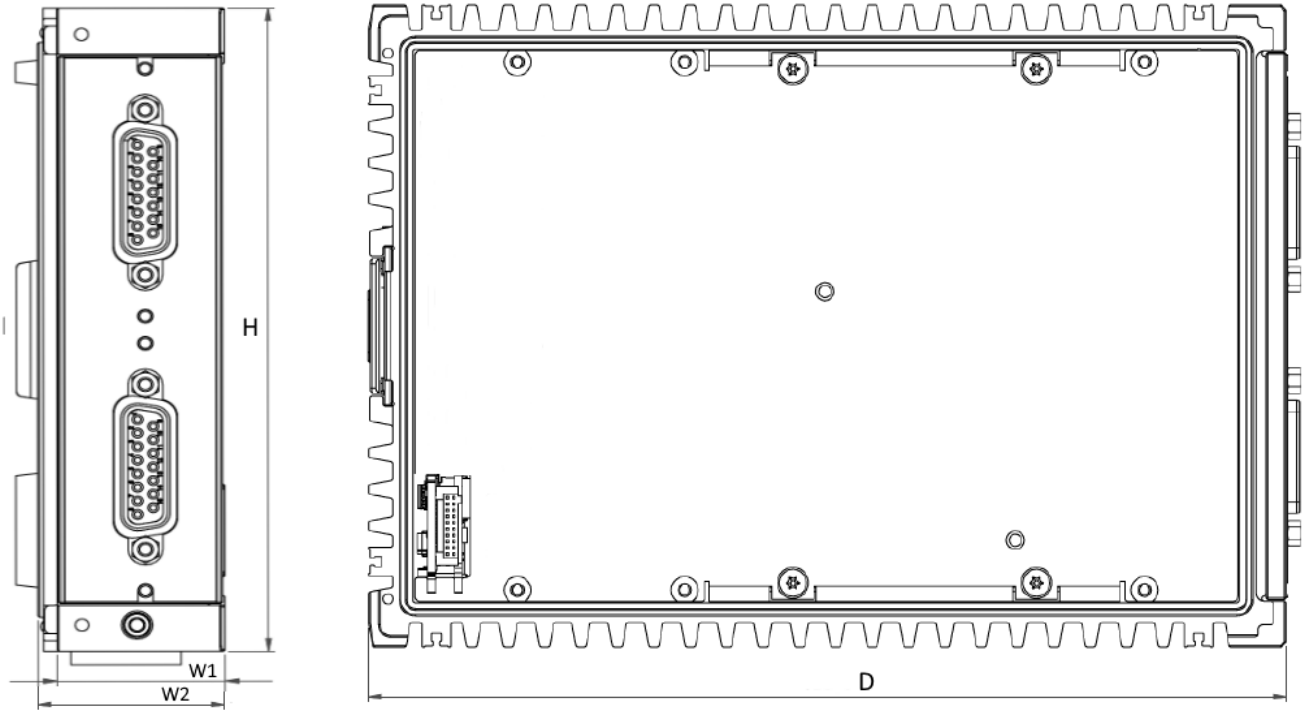
An imc CRONOS-XT system is composed of a base unit and one or more imc CRONOS-XT modules. The imc click mechanism offers a mechanically strong connection between several imc CRONOS-XT modules. At the same time, the "click" establishes an electrical connection to the system bus and the power supply.

Models and Options

Overview of available variants

Order Code	Signal connections	Weight	housing	article no.
CRXT/DO-16-HC	DSUB-15	0.7 kg	XT1	11100088

Dimensions



Shown in standard operating orientation: housing type XT1

Housing type:	XT1	XT2	XT3	XT4	Remarks
W: Width in mm	30.5 34	61 64.5	91.5 95	116.9 120.4	W1: modular spacing (effective stacking width) W2: complete width
H: Height in mm	130				
D: Depth in mm	186.5				

Sealing, IP rating and environmental specs

A single CRXT slice cannot achieve an IP protection level at first because it is functionally open at the side. The specified specifications are always only valid for a complete in a controlled environment clicked (closed) CRXT system. Only after it has been combined with a CRXT base unit (plus power module), CRXT slices if applicable, and the final handles to form a CRXT system can an evaluation be made. The specification for shock, vibration and IP degree of protection applicable to the entire device is then derived from the weakest specification of the CRXT slices used in this combination. They assume that the individual CRXT slices are each mounted in conjunction with the additional stabilizing interconnect brackets (included in the standard accessories supplied).

According to IEC 60529 the Ingress Protection (IP) rating refer to protection classes provided by a housing, the protection of the electrical parts within the housing shell. If all functionally accessible contacts of the sockets are also to be protected, the corresponding plugs must be connected to all sockets. In many cases, a protective cover can also be used alternatively on unused sockets.

Accessories and Plugs

Included accessories

Sealing Caps and mounting accessories		
2x ACC/CAP-DSUB-15-IP67	Sealing Cap IP67 for DSUB-15 sockets	13500342
2x CRXT/BRACKET-CON	interconnect brackets, intended for increased stability	11100040

Miscellaneous
Certificates and calibration protocols: Detailed information on certificates supplied, the specific contents, underlying standards (e.g. ISO 9001 / ISO 17025) and available media (pdf etc.) can be found on our website, or you can contact us directly.
Getting started with imc CRONOS-XT (one copy per delivery)

Optional accessories

DSUB-15 plug (solder) IP67		
CRXT/DSUB15M-IP67	IP67 DSUB-15 plug male	11100073

DSUB-15 extension plugs (IP65)		
ACC/DSUBM-DO-HC-8-IP65	plug for 8 digital outputs (only for DO-16-HC)	13500381

Sealing caps		
ACC/CAP-DSUB-15	dust protection cap for DSUB-15	13500339

Miscellaneous		
ACC/DSUBM-LOCKING-BOLT-L	extended length locking bolts (2 pcs) For the slices with DSUB-15 sockets, the sealed terminal plugs ACC/DSUBM-xxx-IP65 must be used - regardless of the sealing properties: The simple standard plug (ACC/DSUBM-xxx without suffix [-IP65]) have shorter locking screws and therefore cannot be fixed to CRXT slices. However, they can be retrofitted with the long bolts. With long bolts: only for CRXT, with short standard bolts: only for CRFX, CRC, C-SERIE etc.	13500327

Technical Specs - DO-16-HC

Parameter	Value		Remarks
Channels	16		groups of 8 Bit, isolated, common reference potential ("LCOM") for each group
Isolation strength	±50 V		to system ground (housing, CHASSIS, PE) and between groups of 8 Bit
Output configuration	Totem Pole (push-pull) Open Drain (LowSide) Open Source (HighSide)		configurable at DSUB with "OPDRN" - pin: "OPDRN": wire jumper to "LCOM" "OPDRN": open "OPDRN": 10 kΩ-resistor to “LCOM”
Output level	max. U_{ext} = 8 V to 28 V *or* TTL / CMOS 5 V *or* Open-Drain (max. 28 V)		connection of an external supply voltage U_{ext} to "HCOM", (Totem Pole or Open-Source) by means of internal isolated supply voltage and external pull-up-resistors (with 5 V, only Open-Drain configuration supported, no Totem-Pole / push-pull) external supply not required for Open-Drain operation
Max. output current (typ.) Totem Pole (8 V to 28 V) Open Source (8 V to 28 V) Open Drain (max. 28 V) open-drain with internal 5 V supply	HIGH 0.7 A 0.7 A --- 	LOW 0.7 A --- 0.7 A 20 mA	no external clamping diode required for inductive load switching
Output impedance	0.5 Ω		sink and source
Output voltage	HIGH U_{ext} -0.5 Ω · I_{high}	LOW 0.5 Ω · I_{low}	with load current: I_{high} and I_{low} ≤0.7 A
Internal supply voltage, available at user pin "HCOM"	5 V, 160 mA isolated		per 8-bit group; VCC_int = 5 V, decoupled from U_{ext} by diodes on HCOM
Protection mechanisms	short circuit thermal overload capacitive load (surge) inductive load (load dump)		quick response current limiting: 1.4 A (typ.), 2 A (max.) unlimited duration current limiting voltage limiting
State upon system power-up Activation of the output stage Connection of internal 5 V supply to contacts	high impedance (High-Z) upon preparation of measurement upon preparation of measurement		Independent of output configuration with selectable initial states (High / Low) in the selected output configuration VCC_int = 5 V via diodes at HCOM
Switching time	<300 µs		
Additional system delay	typ. 400 µs ±100 µs		Delay, until the value (imc Online FAMOS) is available for output
Terminal connection	DSUB-15		ACC/DSUBM-DO-HC-8 with high current capacity wiring recommended (HCOM / LCOM!)

Pin configuration: ACC/DSUBM-DO-HC-8(-IP65)

Metal plug

ACC/DSUBM-		DO-HC-8
DSUB Pin	Terminal	DIGITAL OUT HIGH CURRENT
9	1	BIT1
2	2	BIT2
10	3	BIT3
3	4	BIT4
11	5	BIT5
4	6	BIT6
12	7	BIT7
5	8	BIT8
13	9	HCOM_1-4
6	10	LCOM_1-4
14	11	HCOM_5-8
7	12	LCOM_5-8
15	15	LCOM
8	18	OPDRN
	13	
	14	
⏚	16	CHASSIS
⏚	17	CHASSIS