ENGINEERING TOMORROW

Fact sheet | iC7-Automation Enclosed Drives

Need **more intelligence**, with **streamlined integration?**

iC7-Automation Enclosed Drives deliver high torque performance in an ultra compact format. iC7-Automation Enclosed Drives open up new application opportunities with flexible system integration in a wide range of industries. Optimized for compact footprint, ease of use and fast serviceability, you can apply these drives to enhance motor control.

Versatile

iC7 Enclosed Drives are available in standard cabinet sizes, configured in the right variant to suit your application:

- 6-pulse, low-harmonic, and regenerative variants
- Wide range of options

Feature	Benefit
Robust by design, high uptime and quality	– Reliable in heavy-duty service
Segregated main cooling channel, (IP21 or IP54) and dedicated PCB area	– Extremely reliable in heavy-duty service
Wide range of pre-designed options	– Flexible to meet any application need
Heat management using heat pipe technology and segregated main cooling channel	– High power density, reduced footprint
Integrated options such as functional extensions, output filters, fuses and disconnects mean no extra external devices are required	– Save cost and time in installation
Installer-friendly design includes pluggable control terminals, easy-access power terminals, and easily replaceable fans	– Save cost and time in installation and service
Modular and scalable solutions for high powers Simplified spare unit handling	– Fast integration and serviceability
Pull-out of power unit without removing motor or mains cables, included with integration unit	– Fast and easy serviceability
Safe door-in-door access to the control compartment	– Safe and fast serviceability

Learn more about iC7-Automation drives

HIGHLIGHTS

- Ultra compact
- Modular and configurable drive
- STO and SS1-t SIL3 as standard
- Functional safety by fieldbus: PROFIsafe
- Scalable control platform
- Powerful hardware-based security including end-to-end encrypted data transfer
- Connectivity with multiple fieldbuses. Activate new fieldbus by license key
- Industrial IoT-ready with secure OPC UA
- High-torque machine performance
- Superior motor control

Safe
and fast service access

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Key specifications

Input	
Voltage rating	380-500 V AC, +10%/-15%
Supply frequency	50/60 Hz
Switching on input [1]	6-pulse: 1-2 times per minute Low-harmonic and regenerative: Switch on twice at 60 s interval, followed by 10 minutes cooling-down period
Grid type	TN, TT, IT, Delta

Output	
Output frequency	0-599 Hz
Switching on output	Unlimited
Overload capacity	110/150% – 1 min every 5 min

Environmental conditions	
Rated temperature	-15 to 40 °C (5 to 104 °F)
Maximum temperature with derating	50 °C (122 °F)
Rated altitude	1000 m (3300 feet) or up to 4,000 m (13,124 ft) with derating
Relative humidity	5-95% non condensing

Functional Safety I/O	
STO and SS1-t	Dual-channel, with galvanic isolation
STO and SS1-t feedback	Single channel, with galvanic isolation

External supply	
Rating	24 V/2 A

Basic I/O	
Digital inputs	6, single-ended
Relay outputs	3 • 2 x NO, NC • 1 x NO • 250 V AC 3 A max. (50/60 Hz) • 24 V DC 2
Analog inputs	2 • -20/0 to +20 mA or -10/0 to +10 V
Analog output	1 • 0-20 mA or 0-10 V resistive load
Thermistor input	1, isolated

Compliance	
Compliance	IEC 61800-5-1

[1] Refer to Design Guide for more information.

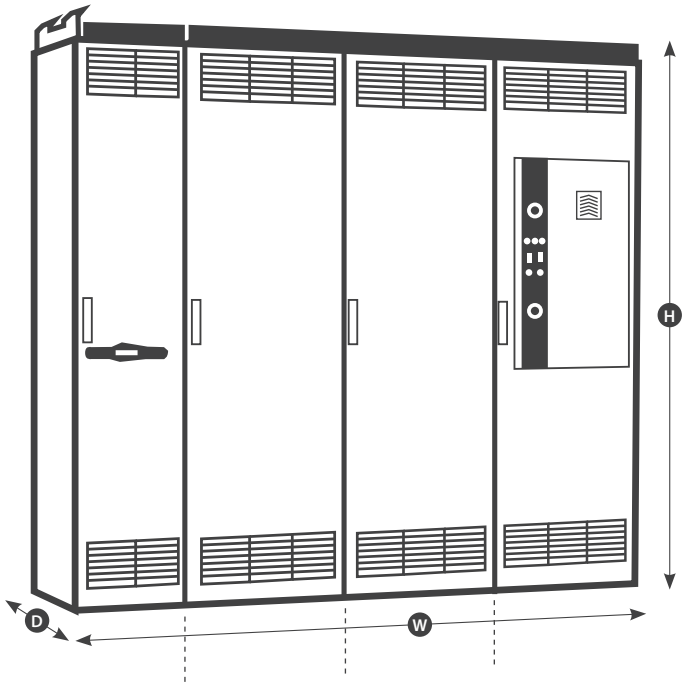
Key specifications for 6-pulse, low-harmonic or regenerative enclosed drives

Environmental	6-pulse	Low-harmonic & regenerative
Voltage rating	3 x 380-500 V AC, -15%/+10%	
Current range	206-588 A	385-1710 A
Overload capacity	110/150% for 1 minute every 5 minutes [1]	
Protection rating	IP21/UL Type 1, IP54	

[1] 1 minute every 10 minutes, for frames FE9 and FE10
1 minute every 5 minutes, for all other frames

Control options

Functional extensions	Description
General Purpose I/O OC7C0	General purpose I/O extension board (3xDI, 2xDO, 2xAI, 1xAO)
Relay Option OC7R0	Relay I/O extension board, with 3 relays
Encoder/Resolver Option OC7M0	Encoder/Resolver extension board (TTL, HTL, SinCos, SSI, HIPERFACE, EnDat, BiSS, resolver)
Temperature Measurement OC7T0	Temperature measurement extension board with 5 channels
I/O and Relay Option OC7C1	I/O extension



Dimensions

Frame		6-pulse enclosed drives		Low-harmonic & regenerative enclosed drives			
		FE09	FE10	AE10 + IE10	AE11 + IE11	2 x AE10 + 2 x IE10	2 x AE11 + 2 x IE11
[mm]	Width	400	600	800	1200	2200	2400
	Height	2300 [1]	2300 [1]	2300 [1] [2]	2300 [1] [2]	2300 [1] [2]	2300 [1] [2]
	Depth	600	600	600	600	600	600
[in]	Width	15.7	23.6	31.5	47.2	86.6	94.5
	Height	90.6 [1]	90.6 [1]	90.6 [1] [2]	90.6 [1] [2]	90.6 [1] [2]	90.6 [1] [2]
	Depth	23.6	23.6	23.6	23.6	23.6	23.6

[1] With 200 mm/7.8 in plinth and lifting rails, without lifting rails -101 mm/4.0 in
[2] If IP21 cabinet total height is 2400 mm/94.5 in

Cabinet options

Mains input device	+GAXX	None
	+GACO	Mains contactor and switch
	+GAMS	Mains switch
	+GACB	Air circuit breaker fixed
Grounding device provision	+GCXX	None
	+GCEP	Provision for grounding device
	+GCES	Grounding switch
Motor heater control	+IAXX	None
	+IAMH	Yes
Cabinet heater	+IBXX	None
	+IBCH	Yes
Motor fan control	+ICXX	None
	+ICFC	Motor fan control
	+ICF1	Motor fan ctrl/supply 2.5-4 A
	+ICF2	Motor fan ctrl/supply 4-6.3 A
	+ICF3	Motor fan ctrl/supply 6.3-10 A
	+ICF4	Motor fan ctrl/supply 10-16 A
Motor brake control	+IDXX	None
	+IDBC	Motor brake control
Control power supply	+IFXX	None
	+IFCS	24 VDC
Service socket	+IGXX	None
	+IGS0	230 VAC socket CEE 7/3
	+IGS1	115 VAC socket, US
	+IGS2	230 VAC socket, UK
Auxillary voltage supply	+IHXX	None
	+IHAT	AC voltage transformer
	+IHAS	AC supply terminals
Door signal lights	+IIXX	None
	+IICD	Run, ready, fault
Emergency stop button	+ILXX	None
	+ILSS	STO/SS1 push button on door
Mains cabling direction	+KCIB	Bottom-entry
	+KCIT	Top-entry
	+KDOB	Bottom-entry
	+KDOT	Top-entry
Cable entry plate	+KFXX	With standard glands
	+KFCP	Blank plate without holes (UL)
Output filter	+MAXX	None
	+MAC2	Common-mode Filter
	+MAU2	dU/dt + CM Filter
	+MAU1	dU/dt Filter
Air-cooling options	+OAXX	Standard
	+OAOF	Cooling air outlet flange
	+OABC	Back-channel cooling
Maintenance options	+QAXX	None
	+QALS	Lifting support for power unit

Some functionalities listed in this fact sheet are for future implementation