Need more intelligent VFDs, with streamlined integration?

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

iC7-Automation Enclosed Drives deliver high torque performance in an ultra compact format. They 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.

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, disconnectors and breakers 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	– Fast and easy serviceability
Safe door-in-door access to the control compartment while drive powered on	– Safe and fast serviceability

Versatile

iC7-Automation 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

Learn more about iC7-Automation

Key specifications

Input	
Voltage rating	380-500 V AC, +10%/-15%
Current range	6-pulse: 206-588 A Low-harmonic & regenerative: 385-2510 A
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% for 1 minute every 5 minutes [2]
Environmental conditions	
Protection rating	IP21/UL Type 1, IP54
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 3000 m (9800 ft) with derating
Relative humidity	5-95% non condensing
Harmonic mitigation and THDi	
iC7-Automation, low harmonic and regenerative enclosed drives	Total harmonic distortion (nominal situation and undistorted network): THDi <5%

Functional Safety I/O	
STO	Dual-channel, with galvanic isolation
STO feedback	Single channel, with galvanic isolation
External supply	
Rating	24 V/2 A
Basic I/O	
Digital inputs [3]	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.
[2] 1 minute every 10 minutes, for frames FE9 and FE10
1 minute every 5 minutes, for all other frames
[3] 2 of the inputs can be reconfigured to outputs

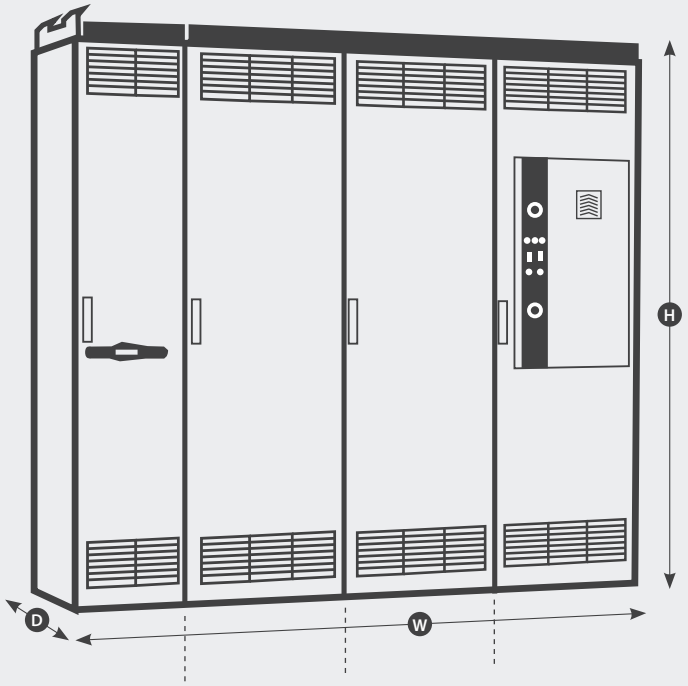
Key specifications for 6-pulse, low-harmonic or regenerative enclosed drives

Environmental	**6-pulse**	**Low-harmonic & regenerative**
Voltage rating	3 x 380-500 V AC, -15%/+10%	3 x 380-500 V AC, -15%/+10%
Current range	206-588 A	385-2510 A
Overload capacity	110/150% for 1 minute every 5 minutes [1]	110/150% for 1 minute every 5 minutes [1]
Protection rating	IP21/UL Type 1, IP54	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

		6-pulse enclosed drives		Low-harmonic & regenerative enclosed drives				
Frame		**FE09**	**FE10**	**AE10 + IE10**	**AE11 + IE11**	**2 x AE10 + 2 x IE10**	**2 x AE11 + 2 x IE11**	**3 x AE11 + 3 x IE11**
[mm]	Width	400	600	800	1200	2200	2400	3200
	Height	2300 [1]	2300 [1]	2300 [1] [2]	2300 [1] [2]	2300 [1] [2]	2300 [1] [2]	2300 [1] [2]
	Depth	600	600	600	600	600	600	600
[in]	Width	15.7	23.6	31.5	47.2	86.6	94.5	126
	Height	90.6 [1]	90.6 [1]	90.6 [1] [2]	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	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
	+MAU1	dU/dt Filter
	+MAU2	dU/dt + CM 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