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<br>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 SIL3 as standard
- Scalable control platform
- Powerful hardware-based security including end-to-end encrypted data transfer
- Connectivity with multiple fieldbuses
- Industrial IoT-ready
- High-torque machine performance
- Superior motor control

**Safe**
**and fast service access**

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# Key specifications [1]

| Input | |
|---|---|
| Voltage rating | 380-500 V AC, +10%/-15% |
| Supply frequency | 50/60 Hz |
| Switching on input [2] | 6-pulse: 1-2 times per minute<br>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 | 55 °C (131 °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 | Dual-channel, with galvanic isolation |
| STO feedback | Single channel, with galvanic isolation |

| External supply | |
|---|---|
| Rating | 24 V/2 A |

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

| Compliance | |
|---|---|
| Compliance | IEC 61800-5-1<br>UL 61800-5-1 |

*[1] Preliminary values pending validation.*
*[2] Refer to Design Guide for more information.*
*[3] 2 of the inputs can be reconfigured to outputs*

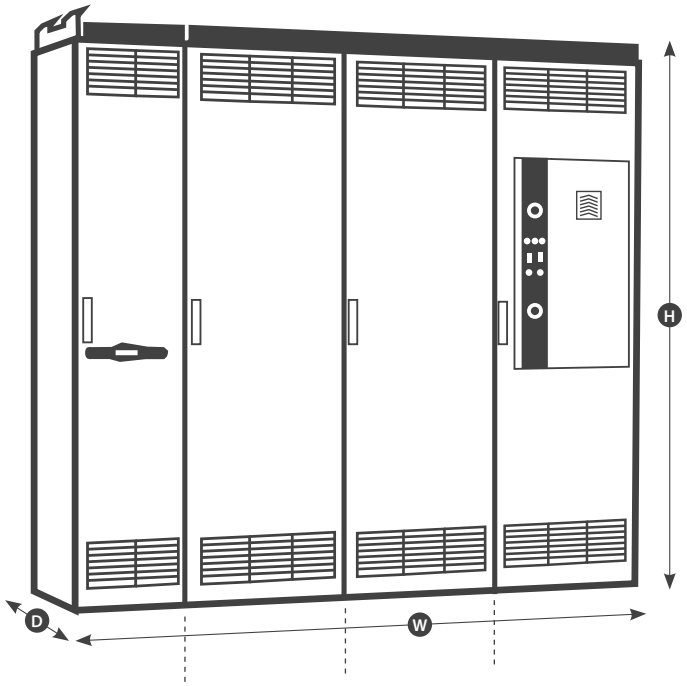
# Key specifications for 6-pulse, low-harmonic or regenerative enclosed drives

| Environmental | 6-pulse | Low-harmonic & regenerative |
|---|---|---|
| Voltage rating | 3 x 380-500 V AC, -15%/+10% | |
| 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*

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Imagine versatile and highly secure power conversion and motor control. Intensely powerful and compact converters and drives built to optimize a vast range of systems while giving you the flexibility to distribute intelligence the way you want. Paving the way for a new dimension, where open, connected and intelligent systems are the new reality.

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## Open up a new dimension with iC7 series

iC7-Automation | iC7-Marine | iC7-Hybrid

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*Some functionalities listed in this fact sheet are for future implementation*