

AC30 Series

Technical Specifications

Overloads

- Heavy Duty Ratings; 150 % for 60 s, 180 % for 3 s
- Normal Duty Ratings; 110 % for 60 s, 180 % of heavy duty FLC for 3 s

Output Frequency

- 0.5 - 1500 Hz dependant upon switching frequency

Operating Range

- Heavy Duty Ratings; 0 - 45 °C
- Normal Duty Ratings; 0 - 40 °C Derate from 40°C to 50 °C max.
- Altitude up to 2000 m ASL Derate above 1000 m

Environment

- IP20 Protection Rating
- Conformally coated to 3C3 and 3C4 for Hydrogen Sulphide (H₂S) as standard
- Optional Internal EMC filter meets requirements of EN61800-3 C2 1st environment
- Integral DC choke above 2.2 kW reduces harmonics to within limits set by EN61000-3-12

Switching Frequency

- Output switching frequencies up to 12 kHz

Dynamic Braking

- Each drive is fitted with an internal dynamic brake switch 100 % continuously rated

Inputs/Outputs

- Analogue Inputs 2; (1 - ±10 V), (1 - ±10 V) or (0-20 mA)
- Analogue Outputs 2; (1 - 0-10 V or 0-20 mA), (1 - ±10 V)
- Digital Inputs 3; Nominal 24 VDC
- Digital Inputs/Outputs 4; Nominal 24 VDC

- Relay Outputs 2; Volt free relay contacts, 3 A at 230 VAC max.

- Reference Supplies +10 VDC (10 mA max) -10 VDC (10 mA max) +24 VDC (140 mA max)

Safe Torque Off (STO)

- STO connection in accordance with EN13849 to PLe Cat 3 and SIL3 to EN61800-5-2

Optional Equipment

- Communications Modules
 - CANopen
 - Ethernet/IP
 - Modbus TCP/IP
 - PROFINET
 - BACnet IP
 - RS485/Modbus RTU
 - DeviceNet
 - BACnet MSTP
 - PROFIBUS
 - EtherCAT
 - ControlNet

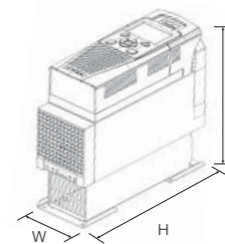
- I/O Expansion Module providing;
 - 6 Digital I/O; user configurable
 - 2 Relay outputs 3 A at 230 VAC
 - 3 Analogue inputs ±10 V
 - Real time clock
 - Thermistor Input

Standards

- AC30 Series meets the following standards when installed in accordance with the relevant product manual.
- CE marked to EN61800-5-1 (Safety, Low Voltage)
- CE marked to EN61800-3 (EMC)
- NRTL listed to US safety standard UL508C
- NRTL listed to Canadian standard C22.2#14

Ratings								
380-480 (±10 %) VAC Supplies Three Phase								
Normal Duty				Heavy Duty				Frame
kW	hp	Output Current A _{rms}		kW	hp	Output Current A _{rms}		
		400 VAC	480 VAC			400 VAC	480 VAC	
1.1	1.5	3.5	3.0	0.75	1	2.5	2.1	D
1.5	2	4.5	3.4	1.1	1.5	3.5	3.0	D
2.2	3	5.5	4.8	1.5	2	4.5	3.4	D
3	4	7.5	5.8	2.2	3	5.5	4.8	D
4	5	10	7.6	3	4	7.5	5.8	D
5.5	7.5	12	11	4	5	10	7.6	D
7.5	10	16	14	5.5	7.5	12	11	E
11	15	23	21	7.5	10	16	14	E
15	20	32	27	11	15	23	21	F
18.5	25	38	36	15	20	32	27	F
22	30	45	40	18.5	25	38	36	G
30	40	60	52	22	30	45	40	G
37	50	73	65	30	40	60	52	G
45	60	87	77	37	50	73	65	H
55	75	105	96	45	60	87	77	H
75	100	145	124	55	75	105	96	H

Dimensions (dimensions in millimeters)			
Frame	H	W	D
D	286	100	255
E	333	125	255
F	383	150	255
G	480	220	287
H	670	260	331



We reserve the right to change the product specification without prior notice

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AC30 Variable Speed Drive

For the Open- and Closed-Loop Control of Pump, Fan and General Purpose Applications
0.75 - 75 kW Standard Drive

aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding

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ENGINEERING YOUR SUCCESS.

AC30 Series AC Drive - Engineered for Flexibility, Simplicity and Reliability

0.75 - 75 kW

AC30 drive has been designed to provide users with exceptional levels of control, from simple open-loop pumps and fans through to closed-loop process line applications. Its flexible and highly modular construction enables a wide range of communications and I/O modules to be easily added as required.

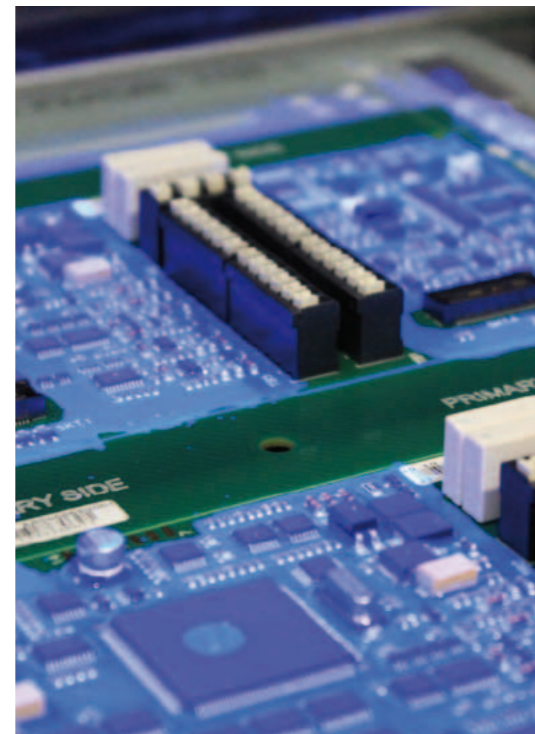
The AC30 has been designed with simplicity in mind, but this doesn't compromise its functionality. Integrated macros for a range of applications and PLC functionality enable more capable users to create sophisticated control that would previously have required a separate PLC.

Designed for operation in environment class 3C3 and 3C4 for (H₂S) as standard, temperatures up to 50 °C with optional integrated EMC filter to C2 1st environment and DC choke to reduce line harmonics.



Engineered for all environments

- Standard conformal coating allows AC30 to be used in Classes 3C3 and 3C4 for Hydrogen Sulphide gas (H₂S). It is also compliant to both Classes 3C1 (rural) and 3C2 (urban) for all defined substances in table 4 in EN60271-3-3
- Internal EMC filter options up to C2 1st environment for use in commercial buildings
- DC chokes above 2.2 kW reduce harmonics to below IEC/EN61000-3-12 limits. Below 2.2 kW complies with IEC/EN61000-3-2 limits without additional chokes
- RoHS compliant in accordance with EC Directive 2011/65/EU
- Automatic restarting and power ride through functions compensate against unstable power supplies
- Disconnectable surge suppression allows AC30 to be used with IT supplies or in low earth leakage applications



Engineered cooling improves reliability

- Intelligent design minimises force ventilation requirements
- Removable fan improves maintainability
- Isolated power stack cooling path reduces contamination of control electronics

Unobstructed access to power and dynamic brake terminals

- Terminal covers removable with drive in-situ
- Dynamic brake switch fitted as standard

Suitable for harsh environments

- AC30 is conformally coated as standard and meets the requirements of environment classes 3C1, 3C2 (all defined substances) plus 3C3 and 3C4 for Hydrogen Sulphide (H₂S)

Suited to all environments

- Internal EMC filter options up to C2 1st environment for use in commercial buildings
- CE marked to EN61800-5-1 and NRTL listed to UL508C and C22.2#14
- DC chokes above 2.2 kW reduce harmonics to below EN61000-3-12 limits
- Drives below 2.2 kW meet EN61000-3-2 harmonic limits without additional chokes

Compact footprint, chassis or through-panel mounting

- Multi-position feet with keyhole slots for ease of mounting
- Reduced heat radiation allows side-by-side mounting

IEC61131 PLC functionality included

- The included PLC functionality enables AC30 to take greater control of its surrounding and in some instances removes the need for an external PLC altogether

Ethernet connectivity and inbuilt diagnostic web pages

- Inbuilt web pages allow AC30 to be interrogated over the onboard Ethernet and Modbus TCP/IP connection

Simplified configuration and data storage with SD cards

- SD card simplifies firmware updates and allows drive configuration and data to be stored

Intuitive and easy to use, multi-function graphical keypad

- Remote mountable and easy to use tactile keypad makes drive setup and operation simple

Expandable I/O capabilities

- A range of option modules expand AC30 to accommodate application specific I/O
- High-performance, closed-loop control with pulse encoder feedback module
- Spring clamp terminals reduce installation time and risk of loose connections

Field-fittable communications

- Seamless integration into automation systems



Safe-Torque-Off (STO) for safety critical applications

- Protecting users and machinery against unexpected motor start-up in accordance with EN13849-1 at PLe Cat3 or SIL 3 to EN61800-5-2

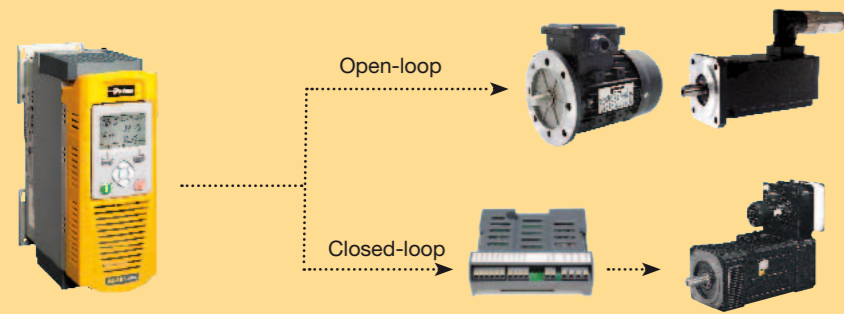
Engineered for energy-savings

Pumps and fans are frequently oversized for the application they are used in and often consume significantly more power than needed. Matching motor speeds to varying demands reduces energy consumption, extends mechanical life and most importantly, saves money. AC30 is the perfect drive to achieve this with integrated energy monitoring functionality and enhanced efficiency.

Engineered for all motors

The AC30 offers effective and affordable control of either Open-loop AC induction and sensorless permanent magnet (PMA) servo motors, or Closed-loop Induction Motors with the additional pulse encoder option.

PMA motors are up to 10 % more efficient and 75 % smaller than standard AC induction motors



Engineered for performance



Graphical keypad

The tactile IP55 keypad can be mounted either on the drive itself or remotely and provides access to all drive functions. The backlit LCD display can present information in any one of a number of different languages, or even in your own custom language with your own user-defined units.

Simple setup wizard and macros

Integrated quick start wizards means you don't have to be an expert to configure the drive within minutes. Dedicated macros and integrated function blocks simplify the creation of specific motor control applications

Communications options

AC30 supports a host of popular fieldbus communication networks as well as having Ethernet and Modbus TCP as standard

I/O option modules

Functionality can be extended with the addition of an optional I/O module. These include real time clock, thermistor, expanded analogue and digital I/O and pulse encoder feedback.