

# AC30V Series

## Technical Specifications

### Overloads

- Heavy Duty Ratings; 150 % for 30 s, 180 % for 0.5 s
- Normal Duty Ratings; 110 % for 30 s, 180 % of heavy duty FLC for 0.5 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 temperatures above to 50 °C max.
- Altitude up to 2000 m ASL Derate above 1000 m

### Environment

- Conformally coated to 3C3 and 3C4 for Hydrogen Sulphide (H<sub>2</sub>S) as standard
- Optional Internal EMC filter meets requirements of EN61800-3 C2 1<sup>st</sup> 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)

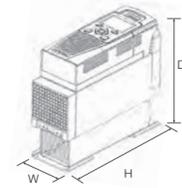
- STO connection in accordance with EN13849 to PLe Cat 3 and SIL3 to EN61800-5-2

### Optional Equipment

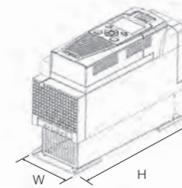
- Communications Modules
  - CANopen
  - DeviceNet
  - Modbus TCP/IP
  - PROFINET
  - BACnet IP
  - DeviceNet
- CC Link
- Ethernet/IP
- PROFIBUS
- EtherCAT
- ControlNet
- BACnet MSTP
- I/O Expansion Module providing;
  - 6 Digital I/O; user configurable
  - 2 Relay outputs 3 A at 230 VAC
  - 3 Analogue inputs ±10 V
  - Real time clock
  - Thermistor Input

### Standards

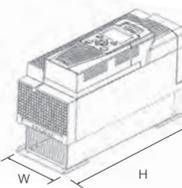
- AC30V series meets the following standards when installed in accordance with the relevant product manual.
- CE marked to EN61800-5-1 (Safety, Low Voltage)
- CE marked to EN61800-3 (EMC)
- NTRL listed to US safety standard UL508C
- NTRL listed to Canadian standard C22.2#14



Frame D



Frame E



Frame F

## Ratings

380-480 (±10 %) VAC Supplies Three Phase

Normal Duty				Heavy Duty				Frame
kW	hp	Output Current A <sub>rms</sub>		kW	hp	Output Current A <sub>rms</sub>		
		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	25	38	36	15	20	32	27	F

## Dimensions

(all dimensions are in millimeters)

Frame	H	W	D
D	286	100	255
E	333	125	255
F	383	150	255

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

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## AC30V Variable Speed Drive

For the Control of Pump, Fan and General Purpose Applications  
0.75 - 18.5 kW

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

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ENGINEERING YOUR SUCCESS.

# AC30V Series AC Drive - Engineered for Flexibility, Simplicity and Reliability

0.75 - 18.5 kW

AC30V drive has been designed to provide users with exceptional levels of control for pump, fan and general purpose applications. Its flexible and highly modular construction enables a wide range of communications and I/O modules to be easily added as required.

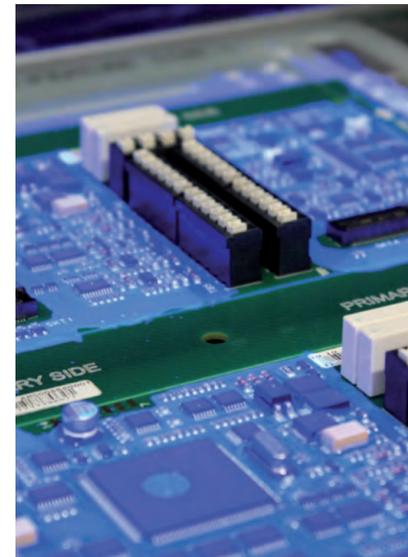
The AC30V has been designed with simplicity in mind, but this doesn't compromise its functionality. Integrated macros for a range of applications and PLC functionality enable more capable users to create sophisticated control that would previously have required a separate PLC.

Designed for operation in environment class 3C3 and 3C4 for (H<sub>2</sub>S) as standard, temperatures up to 50 °C with optional integrated EMC filter to C2 1<sup>st</sup> environment and DC choke to reduce line harmonics.



## Engineered for all environments

- Conformally coated as standard allowing the drive to be used in both Classes 3C3 and 3C4 for Hydrogen Sulphide gas (H<sub>2</sub>S) at a concentration of 25 ppm for 1200 hours. It is also compliant to both Classes 3C1 (rural) and 3C2 (urban) for all nine defined substances in table 4 in EN60271-3-3
- Internal EMC filter options up to C2 1<sup>st</sup> environment for use in commercial buildings
- CE marked to EN61800-5-1 and NTRL listed to UL508C and C22.2#14
- DC chokes above 2.2 kW reduce harmonics to below IEC/EN61000-3-12 limits
- Complies with the RoHS substances restrictions in accordance with EC Directive 2011/65/EU
- Automatic restarting and power ride through functions compensate against unstable power supplies



### 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

- AC30V is conformally coated as standard and meets the requirements of environment classes 3C1, 3C2 (all defined substances) plus 3C3 and 3C4 for Hydrogen Sulphide (H<sub>2</sub>S)

### Suited to all environments

- Internal EMC filter options up to C2 1<sup>st</sup> environment for use in commercial buildings
- CE marked to EN61800-5-1 and NTRL listed to UL508C and C22.2#14
- DC chokes above 2.2 kW reduce harmonics to below IEC/EN61000-3-12 limits

### 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 AC30V 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 AC30V 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

### Field-fittable communications

- Seamless integration into automation systems



### Expandable I/O capabilities

- A range of option modules expand AC30V to accommodate application specific I/O
- Spring clamp terminals reduce installation time and risk of loose connections

### 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. AC30V is the perfect drive to achieve this with integrated energy monitoring functionality and enhanced efficiency.

## Engineered for all motors

The AC30V offers effective and affordable control of either AC induction motors or permanent magnet (PMAC) servo motors.

PMAC motors offer additional benefits over standard AC induction motors

- Up to 10 % more energy saving
- Up to 75 % smaller

## 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**  
AC30V 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 and expanded analogue and digital I/O.