

## H300 HIGH IP



SIMPLE, RELIABLE FLOW CONTROL

### H300 High IP Highlights

#### Standard and High IP drives

The High IP drive will already be familiar to users of the H300, with all the same features that make commissioning effortless. The Hand-Off-Auto keypad with the built-in real-time clock is still available, sealed, and the protective casing has been designed with easy servicing and usability in mind.

IP65 rated enclosure.

#### Save on installation

The H300 High IP drive is enclosed in a sturdy, protective yet light casing, providing a compact solution. This not only allows easy integration in harsh environments but wall mounting close to the motor reduces installation costs, through:

- No enclosure required
- Shorter cable lengths
- Less labor time/cost to install drive

## KEY FUNCTIONS

Function		Function	
Guided set-up via 'Connect' commissioning software	✓	Temperature monitoring	✓
On Board Comms ModBus RTU, BACnet MSTP	✓	Digital inputs	3-6
Control mode: Induction motor operation	✓	Digital outputs	0-3
Control Mode: Sensor-less RFCA Induction Motor Operation	✓	Relays (Form C)	2
Control mode: Sensor-less Permanent magnet motor operation	✓	Motorized potentiometer	✓
Auto-tune static	✓	Logic function control	✓
Auto-tune rotating	✓	Timer function control	✓
Filter Change Timer	✓	Variable selector/ Threshold Detectors	✓
Time before Filter Change Due	✓	PID controllers	2
Hand/Off/Auto control	✓	Energy meter	✓
User Security Access	✓	Trip time stamping	✓
Supply loss detection	✓	Trip logging	10
Low DC link operation	✓	Skip frequency dead bands	✓
Catch a spinning motor	✓	Control word	✓
Stop mode: Ramp	✓	Auto reset	✓
Stop mode: Coast	✓	Parameter cloning	✓
Stop mode: Fast ramp	✓	Additional application parameters	148
Programmable braking	✓	On-board oscilloscope function	✓
Motor pre-heat mode	✓	On-board PLC	✓
Bi-polar references	✓	SD card adapter	✓
Skip frequencies	✓	SMARTCARD	✓
Fire Mode	✓	Acceleration rates	4
Demand based sleep mode	✓	Deceleration rates	4
Analog inputs	2	S Ramp	✓
Analog outputs	2		

# SPECIFICATION

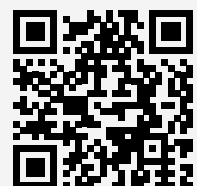
## H300

Items supplied with the drive	Step-By-Step Guide, safety information, grounding bracket, grounding clamp, DC terminal cover grommets, terminal nuts, supply and motor connector, surface mounting brackets, control terminals, relay connectors, 24 V power supply connector, finger guard grommets, IP65 cover and IP65 mounting brackets
Storage temperature	-40 °F to 131 °F, -40 °C to 55 °C
Operating temperature without de-rate	-4 °F to 104 °F, -20 °C to 40 °C
Operating temperature with de-rate	104 °F to 131 °F, 40 °C to 55 °C
Supply requirements	Maximum supply imbalance: 2 % negative phase sequence (equivalent to 3 % voltage imbalance between phases). Input frequency 45 to 66 Hz
Switching frequency range	2,3,4,6,8,12,16 kHz (Factory default = 3 kHz)
Approvals	CE (European Union), cULus Listed (USA and Canada), RCM (Australia/ New Zealand), EAC (Russian Customs Union), UKCA
Product safety standard	EN61800-5-1
Functional safety	Single STO Function
Altitude	3280 ft (1000 m) – No de-rate. 3280 to 8942 ft (1000 m to 3000 m) - 1% de-rate / 328 ft (100 m)
Humidity	95 % Non-condensing
Pollution	Degree 2. Dry, non-conducting pollution only
IP Rating	IP65
Vibration	Reference standard IEC60068-2-29 bump test, IEC60068-2-64 random vibration test, IEC60068-2-6, EN61800-5-1 sinusoidal vibration test.
Mounting methods	Surface mount or through-panel mount via mounting brackets
Output frequency/speed range	599 Hz
Braking	In-built braking transistor, external resistor required.
Operating modes	Open Loop Induction Motor V/F, RFC-A (sensorless induction motor) RFC-S (sensorless permanent magnet motor)
Overload capability	110 % for 165 s from cold or for 9 s from 100 % load

Overvoltage category	Evaluated for OVC III.
Corrosive environments	Concentrations not exceeding levels set in: EN 50178:1998 Table A2 IEC 60721-3-3 Class 3C2
Immunity Compliance	IEC61800-3, EN60800-6-2, IEC 61000-4-2, IEC 61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-11, IEC61000-6-1, IEC 61000-6-2.
Emission compliance	Capable of meeting the requirements of Equipment Category C3 without external filters or line reactors. Capable of meeting the requirements of Equipment Category C2 when installed with the recommended filters and line reactors. IEC61800-3, EN61000-6-4, EN61000-3-2, EN61000-3-12, EN61000-3-3, EN12015
Cooling	Forced cooled
Safe Torque off	Single STO. SIL 3
Communications	- RS485 with Modbus RTU - BACnet MS/TP - EtherNet/IP, EtherCAT, PROFIBUS, PROFINET, DeviceNet, POWERLINK and CANopen via option modules
Control I/O	2 x Analog input, 2 x Analog outputs, 3 x Digital I/O programmable, 3 x Digital input, 2 x Form C relays 250 Vac Max., 5 x 0V common, 1 x 24 V user output, 1 x 24 V external input, 1 x STO input. Additional I/O available with SI-I/O option module.
Accuracy	Frequency 0.01 %, Analog input 1 and 2: 11 bits plus sign, Current accuracy typical 2 %.
User program capability	Available with MCi200 and MCi210 option modules
Keypad (LCD)	KI- HOA keypad RTC (real time clock), optional HOA Remote Keypad
PC Tools	'Connect' commissioning and cloning tool including CT Oscilloscope, Machine Control Studio for On-board PLC programming.
Warranty	5 years
Supported options	HMI, Remote Keypad RTC, SI-I/O, Remote I/O, SI-Encoder (speed feedback), SI-Universal Encoder, MCi200 (second processor), MCi210 (second processor), SI-Ethernet, SI-EtherCAT, SI-DeviceNet, SI-PROFIBUS, SI-PROFINET, SI-POWERLINK, SI-CANopen, KI-485 comms adapter, SD card adapter, SMARTCARD
Accessories	External EMC filters

## Documentation & Downloads

Product documentation and PC tools available for download from:  
[www.controltechniques.com/support](http://www.controltechniques.com/support)

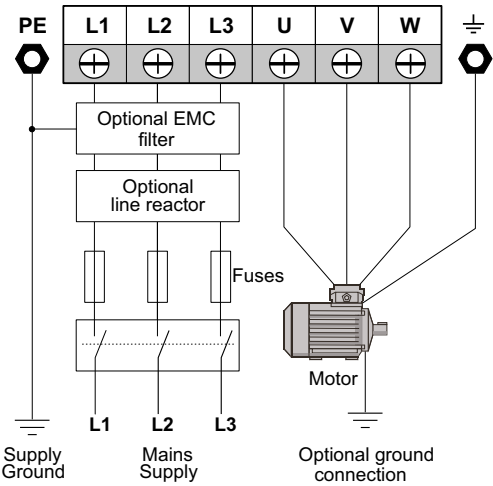


DIMENSIONS

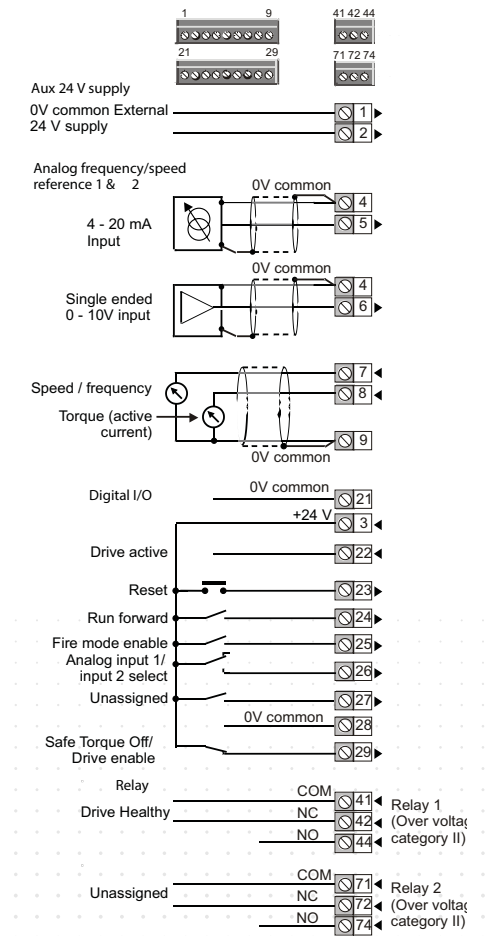


Frame Size	Overall Dimensions						Mounting Dimensions				Mounting Hole Diameter		Weight	
	in			mm			in		mm		in	mm	lb	kg
	H	W	D	H	W	D	H	W	H	W				
3	22.49	10.7	8.7	571.4	255.8	220.7	18.32	2.87	465.5	73	0.23	4 x 6	16.5	7.5
4	22.49	10.7	8.7	571.4	255.8	220.7	18.5	4.17	470	106	0.27	4 x 7	20.5	9.3
5	22.46	10.7	8.7	570.7	255.8	220.7	18.38	4.38	467	110	0.27	4 x 7	22.0	10.0
6	22.59	9.73	9.8	573.79	316.68	247.3	18.81	7.72	478	196	0.27	6 x 7	37.3	16.9

# CONNECTIONS

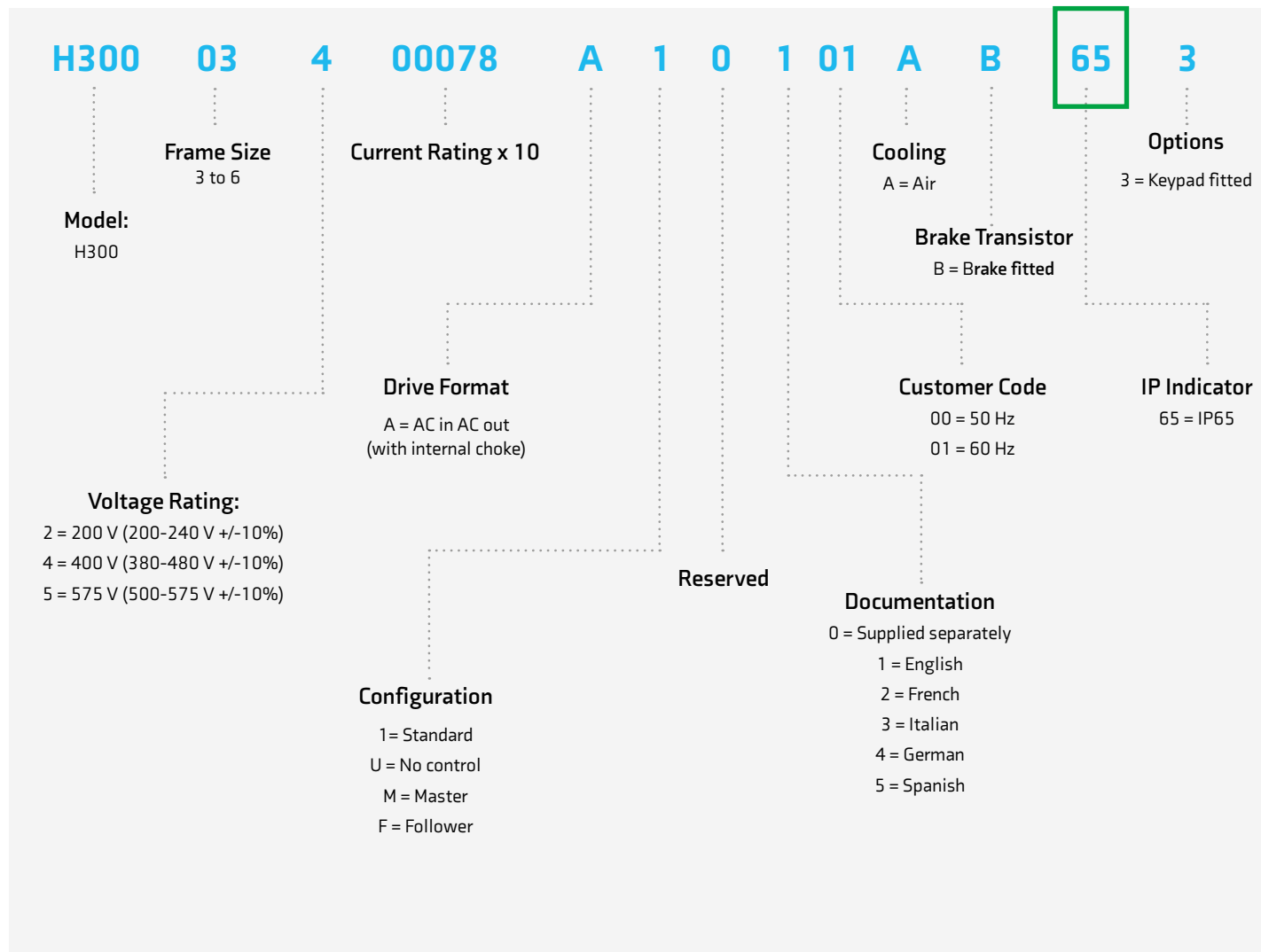


Typical Power Connections



Default Control Connections

# PART NUMBERS



# MODEL NUMBER AND RATINGS

200/240 Vac $\pm 10\%$				
Product Code*	Frame size	Normal Duty		
		IP65 Max continuous current (A)	Motor shaft power (hp)	Motor shaft power (kW)
H300-03200066	3	6.6	1.5	1.1
H300-03200080	3	8	2	1.5
H300-03200110	3	11	3	2.2
H300-03200127	3	12.7	3	3
H300-04200180	4	18	5	4
H300-04200250	4	22	7.5	5.5
H300-05200300	5	30	10	7.5
H300-06200500	6	50	15	11

500/575 Vac $\pm 10\%$				
Product Code*	Frame size	Normal Duty		
		IP65 Max continuous current (A)	Motor shaft power (hp)	Motor shaft power (kW)
H300-05500039	5	3.9	3	2.2
H300-05500061	5	6.1	5	4
H300-05500100	5	10	7.5	5.5
H300-06500120	6	12	10	7.5
H300-06500170	6	17	15	11
H300-06500220	6	22	20	15
H300-06500270	6	27	25	18.5
H300-06500340	6	34	30	22

380/480 Vac $\pm 10\%$				
Product Code*	Frame size	Normal Duty		
		IP65 Max continuous current (A)	Motor shaft power (hp)	Motor shaft power (kW)
H300-03400034	3	3.4	1.5	1.1
H300-03400045	3	4.5	2	1.5
H300-03400062	3	6.2	3	2.2
H300-03400077	3	7.7	5	3
H300-03400104	3	10.4	5	4
H300-03400123	3	11	7.5	5.5
H300-04400185	4	18.5	10	7.5
H300-04400240	4	21	15	11
H300-05400300	5	29	20	15
H300-06400380	6	38	25	18.5
H300-06400480	6	48	30	22

\*Note: this is the short product code, add A10101AB653 to this code when ordering



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