

Unidrive

AC Variable Speed Drive

0.75 kW to 1 MW

Universal and Intelligent

Unidrive V3 gives users the benefits of simplicity, ease of use, flexibility, and dynamic performance. Everything you would expect from a Control Techniques product. Unidrive V3 features pre-configured application parameter sets known as MACROs which mean that the Unidrive can be configured in minutes for a variety of industry standard applications, saving you time and money. Unidrive is a truly universal AC Variable Speed Drive that can operate in five modes:-

OPEN LOOP - V/F Control

OPEN LOOP - Space Vector Control

CLOSED LOOP - Flux Vector Control

SERVO - AC Brushless permanent Magnet Control (See Pg 20)

REGENERATION - Fully Sinusoidal Regenerative Mode

Key Features

Standard Functions

- Position control/Digital lock
- Programmable logic functions
- 2 Programmable thresholds
- Catch a spinning motor
- Mains dip ride through
- Frequency slaving
- 8 Preset speeds
- 8 Preset accelerations
- 8 Preset decelerations
- 3 Skip frequencies with adjustable bandwidths
- Speed reference sequencer
- Coast and ramp to stop modes
- S-ramp profiling
- Injection and dynamic braking

Diagnostics and I/O

- Full internal protection
- Last 10 trips stored
- Clock control for maintenance and cost calculations
- Programmable relay
- Analogue: 3 Analogue inputs, 2 Analogue outputs, Fully programmable, Voltage / Current selectable
- Digital: 3 Digital inputs, 3 Digital inputs/outputs, Fully programmable

Options

- Applications co-processing module
- 6 different communications modules
- 3 different feedback modules
- Universal keypad for remote use
- EMC filters for CE conformity (when required)



Key Benefits

More Power...

- The best power-to-size ratio available, minimising panel costs
- Large systems up to 1 MW designed, engineered and commissioned with 300 A power modules
- Unidrive uses the same options throughout the complete power range for maximum flexibility

More Performance...

- Advanced auto-tuning facility enables Unidrive to dramatically increase the motor shaft performance while offering the user quieter motor operation
- Unidrive's Intelligent Thermal modelling ensures you get the maximum performance for your application
- Enhanced control algorithms giving probably the best Flux Vector drive performance in the world

Easy to Use...

- Easy configuration for applications using pre-configured parameter sets (MACROs). MACROs include: General Purpose, Easy Mode, Motorised Potentiometer, Preset Frequencies/Speeds, Torque Control, PID Control, Axis Limit Control, Brake Control, Electrical gearbox
- Quick and easy viewing/editing of parameter values using the Unisoft commissioning software
- Quick Start guide to get your motor shaft turning in minutes
- Simple set up of multiple drives with accuracy and repeatability using the optional cloning module
- Easy to connect pluggable terminals

Filters See Page 42

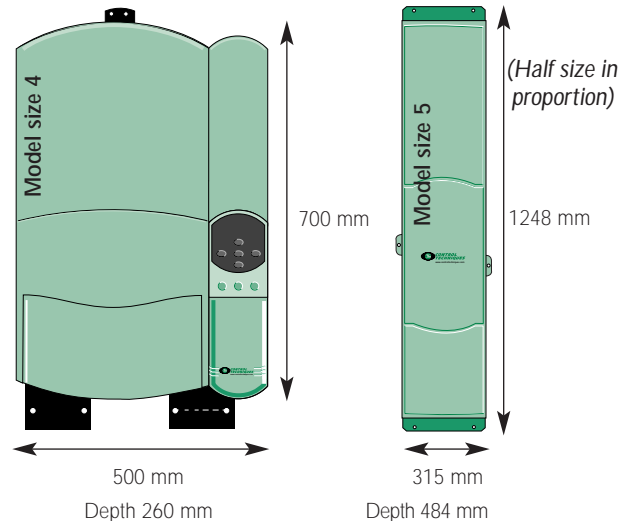
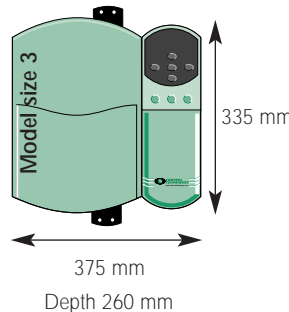
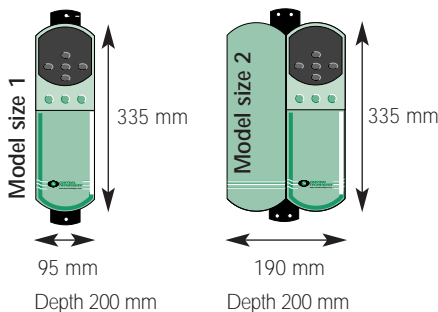
Motors See Page 88

Options/software

EMC Filters	See Page 42
Extended I/O (UD50)	See Page 69
Second Encoder (UD51)	See Page 70
Sin/Cos Encoder (UD52)	See Page 71
Resolver Feedback (UD53)	See Page 72
Cloning Module (UD55)	See Page 73
Applications Module (UD70)	See Page 74
Modbus (UD70)	See Page 74
Serial Communications (UD71)	See Page 54
Profibus – DP (UD73)	See Page 55
Interbus S (UD74)	See Page 56
CTNet (UD75)	See Page 57
Modbus Plus (UD76)	See Page 58
DeviceNet (UD77)	See Page 59
CAN Interface	See Page 66
High Performance Servo (UD78)	See Page 75
Unisoft Commissioning Software	See Page 78
Universal Keypad	See Page 44
CTIU Operator Interface	See Page 48

Further Information

Item	Part.No
Quick Reference Guide	0447-0029
Unidrive User Guide	0460-0021
Unidrive Size 1-4 Installation Guide	0447-0088
Unidrive size 5 Installation Guide	0447-0089
Unidrive Advanced User Guide	0447-1001
Unidrive Servo and Unimotor Product Data	0175-0306
Unidrive Brochure	0175-0121
Unidrive Product Data	0175-0003



Unidrive ratings tables

Model	Nominal Motor Power (4 pole)		Output Current†
	@380V kW	@460V HP	
UNI1401	0.75	1.0	2.1
UNI1402	1.1	1.5	2.8
UNI1403	1.5	2.0	3.8
UNI1404	2.2	3.0	5.6
UNI1405	4.0	5.0	9.5
UNI2401	5.5	7.5	12.0
UNI2402	7.5	10.0	16.0
UNI2403	11.0	15.0	25.0
UNI3401	15.0	20.0	34.0
UNI3402	18.5	25.0	40.0
UNI3403	22.0	30.0	46.0
UNI3404	30.0	40.0	60.0
UNI3405	37.0	50.0	70.0
UNI4401	45.0	60.0	96.0
UNI4402	55.0	75.0	124.0
UNI4403	75.0	100.0	156.0
UNI4404	90.0	125.0	180.0
UNI4405	110.0	150.0	202.0
UNI5401*	132.0	175.0	240.0
	160.0	200.0	300.0

Rated line voltage (V) 380-480 ± 10%, 3 phase, frequency (Hz) 48-62

† Drive rating at 3 kHz switching frequency: 150% overload for 1 minute

* Unit is dual rated for 120% or 150% overload

NOTE: The 4th Character in the drive model number indicates the model size

Low Voltage

Model	Nominal Motor Power (4 pole)		Output Current†
	@230V kW	@230V HP	
UNI1201	0.37	0.5	2.1
UNI1202	0.55	0.75	2.8
UNI1203	0.75	1.0	3.8
UNI1204	1.1	1.5	5.6
UNI1205	2.2	3.0	9.5
UNI2201	3.0	4.0	12.0
UNI2202	4.0	5.0	16.0
UNI2203	5.5	7.5	25.0
UNI3201	7.5	10.0	34.0
UNI3202	11	15.0	46.0
UNI3203	15	20.0	60.0
UNI3204	22	30.0	70.0

Rated line voltage (V) 200-240 ± 10%, 3 phase, frequency (Hz) 48-62

† Drive rating at 3 kHz switching frequency: 150% overload for 1 minute

From 160 kW to 1 MW

For your larger power applications we can offer the Unidrive size 5. Each unit is rated at 300 A. Up to 8 can be connected in parallel to achieve an output of 2400 A. Unidrive size 5's can be configured in a 12 pulse arrangement or in electronic regeneration giving greatly reduced input harmonics. For more information on Unidrive size 5 please refer to your local drive centre.