

General Purpose

AC Variable Speed Drive

0.37kW – 22kW
0.5HP – 30HP
380–480V
Single & 3 Phase Input

IP20

IP66



Easy to Use General Purpose Drive

Focused on ease of use, TECTOP provides unrivalled simplicity of installation, connection and commissioning, allowing the user to benefit from precise motor control and energy savings within minutes.

IP20

Up to 22kW

- Easy to use
- Compact & robust

IP66





Up to 7.5kW

- Dust-tight
- Washdown ready



Key Features



| | | |
|--|---|--|
|  <p>Simple Commissioning</p> <p>With just 14 basic parameters and application macro functions providing rapid set up, TECHTOP minimises start-up time.</p> |  <p>Intuitive Keypad Control</p> <p>Precise digital control at the touch of a button.</p> |  <p>Application Macros</p> <p>Switch between Industrial, Pump & Fan modes to optimise TECHTOP for your application.</p> |
| <ul style="list-style-type: none"> • Internal Category C1 EMC filter • Internal PI control • Internal brake chopper • Dual analogue inputs • Operates up to 50°C •  Bluetooth connectivity | <p>Internal Category C1 EMC Filter</p> <p>An internal filter in every TECHTOP saves cost and time for installation.</p> <p>Cat C1 according to EN61800-3:2004</p> | <p>Modbus RTU</p> <p>CANopen</p> <p>on-board as standard</p> |

Sensorless Vector Control for all Motor Types

Precise and reliable control for IE2, IE3 & IE4 motors

- IM** IE2 & IE3 Induction Motors
- PM** AC Permanent Magnet Motors
- BLDC** Brushless DC Motors
- SynRM** Synchronous Reluctance Motors



IP20 Models

Up to 22kW

Compact, robust and reliable general purpose drive for panel mounting

Simple Installation

DIN rail and keyhole mounting options

Fast Connection

5mm rising clamp terminals with captive screws



Quick Reference

Integrated help card



Power supply connects at top

Operates up to 50°C

Modbus RTU
CANopen
on-board as standard



OPTISTICK

Rapid parameter cloning and Bluetooth PC interface



Dual analogue inputs

Motor supply connects at base



Incredibly Easy to Use

- Built in PI control, EMC filter (C1) & brake chopper
- Application macros for industrial, fan and pump operation
- Bluetooth connectivity

Simply Power Up

TECTOP provides precise motor control and energy savings using the factory settings. Simply power up and the drive can immediately deliver energy savings.

14 basic parameters allow simple adjustment for your application if required, with up to 50 parameters available in total for a highly flexible performance.

4 sizes cover global supply ratings



IP66 Models



Up to 7.5kW

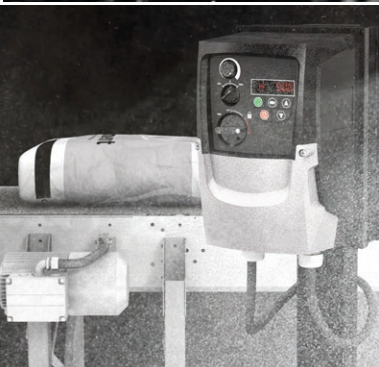
Enclosed drives for direct machine mounting, dust-tight and ready for washdown duty

Coated Heatsink as Standard

Ideal for hygiene based operations requiring washdown — such as food and beverage

Fanless Heatsink

For reliable, cost effective operation



Switched or Non-Switched



Conformal coating as standard

Dust-Tight Design

Install directly on your processing equipment and be sure of protection from dust and contaminants.

Washdown Ready

With a sealed ABS enclosure and corrosion resistant heatsink, the TECTOP IP66 is ideal for high-pressure washdown applications.

TECTOP IP66 Switched

Simply wire up the drive, turn the inbuilt potentiometer and the motor will start running – allowing immediate energy savings

Saving energy cannot be easier than this!

Local Speed Potentiometer

Run Reverse / Off / Run Forward Switch

Lockable Mains Disconnect / Isolator





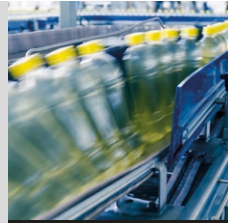
Switch modes with a single parameter change to optimise TECTOP for your application

Industrial Mode

Industrial Mode optimises TECTOP for load characteristics of typical industrial applications.

Sensorless Vector provides high starting torque and excellent speed regulation.

IP20 panel mount units or **IP66** for direct machine mounting



Applications include:

- Conveyors
- Mixers
- Treadmills



Rapid parameter cloning using **OPTISTICK**

Pump Mode

Pump Mode makes energy efficient pump control easier than ever.

- Constant or variable torque
- Internal PI control



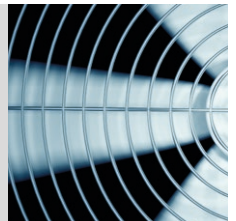
Applications include:

- Dosing Pumps
- Borehole Pumps
- Transfer Pumps
- Swimming Pools
- Spas
- Fountains

Fan Mode

Fan Mode (inc. fire operation) makes air handling a breeze, ideal for simple HVAC systems.

- High efficiency variable torque motor control
- Flying start capability
- Mains loss ride through
- PI control

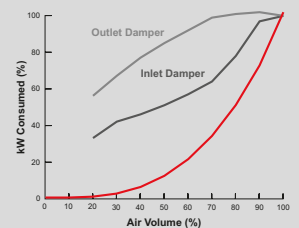


Applications include:

- Air Handling Units
- Ventilation Fans
- Circulating Fans
- Air Curtains
- Kitchen Extract

Instant Power Savings

The graph to right shows the incredible efficiency of TECTOP for controlling airflow compared to traditional damper control methods.



Options & Accessories



Bluetooth®

OPTISTICK

Optistick

OPT-2-STICK-IN

Rapid Commissioning Tool

- Allows copying, backup and restore of drive parameters
- Provides Bluetooth wireless interface to a PC running OptiTools Studio



Remote Keypads

Optipad

OPT-2-OPPAD-IN

Remote Keypad & OLED Display

OPT-2-OPORT-IN

Optiport 2

Remote Keypad & LED Display



RJ45 Accessories

Ideal for simple and fast connection of Modbus RTU/CAN networks

- OPT-J4505-IN** RJ45 Cable 0.5m
- OPT-J4510-IN** RJ45 Cable 1.0m
- OPT-J4530-IN** RJ45 Cable 3.0m
- OPT-J45SP-IN** RS485 3 Way Data Cable Splitter RJ45



EtherNet Module

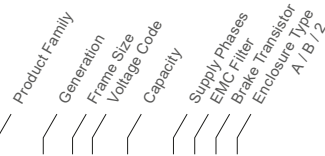
OPT-2-ETHEG-IN

- ODVA compliant EtherNet/IP Modbus Translator Device
- Compatible with all drive platforms: P2, E3 & Eco
- Integrated network switch: simplifying network architecture
- Compatible with RSLogix and CoDeSys PLCs



External EMC Filters,
Input Chokes &
Output Filters are
available

| kW | HP | Amps | Size |
|----|----|------|------|
|----|----|------|------|



200–240V ± 10%
1 Phase Input

| | | | |
|------|-----|------|---|
| 0.37 | 0.5 | 2.3 | 1 |
| 0.75 | 1 | 4.3 | 1 |
| 1.5 | 2 | 7 | 1 |
| 1.5 | 2 | 7 | 2 |
| 2.2 | 3 | 10.5 | 2 |
| 4 | 5 | 15.3 | 3 |

| | | | |
|------------------------|---|---|---|
| TEC - 3 - 1 2 0023 - 1 | F | 1 | # |
| TEC - 3 - 1 2 0043 - 1 | F | 1 | # |
| TEC - 3 - 1 2 0070 - 1 | F | 1 | # |
| TEC - 3 - 2 2 0070 - 1 | F | 4 | # |
| TEC - 3 - 2 2 0105 - 1 | F | 4 | # |
| TEC - 3 - 3 2 0153 - 1 | 0 | 4 | # |

380–480V ± 10%
3 Phase Input

| | | | |
|------|-----|-----|---|
| 0.75 | 1 | 2.2 | 1 |
| 1.5 | 2 | 4.1 | 1 |
| 1.5 | 2 | 4.1 | 2 |
| 2.2 | 3 | 5.8 | 2 |
| 4 | 5 | 9.5 | 2 |
| 5.5 | 7.5 | 14 | 3 |
| 7.5 | 10 | 18 | 3 |
| 11 | 15 | 24 | 3 |
| 15 | 20 | 30 | 4 |
| 18.5 | 25 | 39 | 4 |
| 22 | 30 | 46 | 4 |

| | | | |
|------------------------|---|---|---|
| TEC - 3 - 1 4 0022 - 3 | F | 1 | # |
| TEC - 3 - 1 4 0041 - 3 | F | 1 | # |
| TEC - 3 - 2 4 0041 - 3 | F | 4 | # |
| TEC - 3 - 2 4 0058 - 3 | F | 4 | # |
| TEC - 3 - 2 4 0095 - 3 | F | 4 | # |
| TEC - 3 - 3 4 0140 - 3 | F | 4 | # |
| TEC - 3 - 3 4 0180 - 3 | F | 4 | # |
| TEC - 3 - 3 4 0240 - 3 | F | 4 | 2 |
| TEC - 3 - 4 4 0300 - 3 | F | 4 | 2 |
| TEC - 3 - 4 4 0390 - 3 | F | 4 | 2 |
| TEC - 3 - 4 4 0460 - 3 | F | 4 | 2 |

Enclosure & Display Types



EMC Filter

- F** Internal EMC Filter
- 0** No Internal EMC Filter

IP20



| Size | | 1 | 2 | 3 | 4 |
|------|---------|------|------|------|------|
| mm | Height | 173 | 221 | 261 | 420 |
| mm | Width | 83 | 110 | 131 | 171 |
| mm | Depth | 123 | 150 | 175 | 212 |
| kg | Weight | 1.0 | 1.7 | 3.2 | 9.1 |
| | Fixings | 4xM5 | 4xM5 | 4xM5 | 4xM8 |

IP66



| Size | | 1 | 2 | 3 |
|------|---------|------|------|-------|
| mm | Height | 232 | 257 | 310 |
| mm | Width | 161 | 188 | 210.5 |
| mm | Depth | 179 | 187 | 252 |
| kg | Weight | 3.1 | 4.1 | 7.6 |
| | Fixings | 4xM4 | 4xM4 | 4xM4 |

Drive Specification



| | | | |
|-----------------------|---------------------------|--|--|
| Input Ratings | Supply Voltage | 110 – 115V ± 10% 200 – 240V ± 10% 380 – 480V ± 10% | |
| | Supply Frequency | 48 – 62Hz | |
| | Displacement Power Factor | > 0.98 | |
| | Phase Imbalance | 3% Maximum allowed | |
| | Inrush Current | < rated current | |
| | Power Cycles | 120 per hour maximum, evenly spaced | |
| Output Ratings | Output Power | 110V 1 Ph Input: 0.5–1.5HP (230V 3 Ph Output) 230V 1 Ph Input: 0.37–4kW (0.5–5HP) 230V 3 Ph Input: 0.37–11kW (0.5–15HP) 400V 3 Ph Input: 0.75–22kW 460V 3 Ph Input: 1–30HP | |
| | Overload Capacity | 150% for 60 seconds 175% for 2.5 seconds | |
| | Output Frequency | 0 – 500Hz, 0.1Hz resolution | |
| | Acceleration Time | 0.01 – 600 seconds | |
| | Deceleration Time | 0.01 – 600 seconds | |
| | Typical Efficiency | > 98% | |
| | Ambient Conditions | Temperature | Storage: –40 to 60°C Operating: –10 to 50°C |
| | | Altitude | Up to 1000m ASL without derating Up to 4000m maximum |
| Humidity | | 95% Max, non condensing | |
| Vibration | | Conforms to EN61800-5-1 | |
| Enclosure | Ingress Protection | IP20, IP66 | |
| Programming | Keypad | Built-in keypad as standard Optional remote mountable keypad | |
| | Display | 7 Segment LED | |
| Control Specification | Control Method | Sensorless Vector Speed Control PM Vector Control BLDC Control Synchronous Reluctance | |
| | PWM Frequency | 4–32kHz Effective | |
| | Stopping Mode | Ramp to stop: User Adjustable 0.1–600 secs Coast to stop | |
| | Braking | Motor Flux Braking Built-in braking transistor (not frame size 1) | |
| | Skip Frequency | Single point, user adjustable | |
| | Setpoint Control | Analog Signal | 0 to 10 Volts 10 to 0 Volts 0 to 20mA 20 to 0mA 4 to 20mA 20 to 4mA |
| | | Digital | Motorised Potentiometer (Keypad) Modbus RTU CANopen EtherNet/IP |

| | | | |
|---------------------------|-----------------------|---|---------------------------|
| Fieldbus | Built-in | CANopen | 125–1000 kbps |
| | | Modbus RTU | 9.6–115.2 kbps selectable |
| I/O Specification | Power Supply | 24 Volt DC, 100mA, Short Circuit Protected 10 Volt DC, 5mA for Potentiometer | |
| | Programmable Inputs | 4 Total 2 Digital 2 Analog / Digital selectable | |
| | Digital Inputs | 8 – 30 Volt DC, internal or external supply Response time < 4ms | |
| | Analog Inputs | Resolution: 12 bits Response time: < 4ms Accuracy: ± 2% full scale Parameter adjustable scaling and offset | |
| | Programmable Outputs | 2 Total 1 Analog / Digital 1 Relay | |
| | Relay Outputs | Maximum Voltage: 250 VAC, 30 VDC Switching Current Capacity: 6A AC, 5A DC | |
| Application Features | PI Control | Internal PI Controller Standby / Sleep Function | |
| | Fire Mode | Bidirectional Selectable Speed Setpoint (Fixed / PI / Analog / Fieldbus) | |
| Maintenance & Diagnostics | Fault Memory | Last 4 Trips stored with time stamp | |
| | Data Logging | Logging of data prior to trip for diagnostic purposes: Output Current Drive Temperature DC Bus Voltage | |
| | Monitoring | Hours Run Meter | |
| Standards Compliance | Low Voltage Directive | Adjustable speed electrical power drive systems. EMC requirements | |
| | EMC Directive | 2004/108/EC Cat C1 according to EN61800-3:2004 | |
| | Machinery Directive | 2006/42/EC | |
| | Conformance | CE, RCM | |



Low Power Applications

Dedicated to low power applications, TECTOP combines innovative technology, reliability, robustness and ease of use in a range of compact IP20 & IP66 enclosures.

Simple Commissioning

14 parameter basic setup. Default settings suitable for most applications. Contactor style connection for simple wiring.

TECtop IP66

Environmentally protected, IP66 rated models can be mounted directly on your processing equipment.

Washdown Ready

With a sealed ABS enclosure and corrosion resistant heatsink, TECTOP IP66 models are ideal for high-pressure washdown applications.

On-drive Control

IP66 models feature optional, convenient controls for speed control, REV/OFF/FWD and Power ON/OFF, complete with safety lock.



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