

## ADVANCED COMMUNICATION

The new TomCat Evo is not only faster thanks to a new CPU, but also more advanced in communication. Developed in 2 power sizes up to 1.8kW and 4 versions with different Fieldbuses that make it even more versatile.

STO - Certified SafeTorque Off Input circuit

## STANDARD

### STANDARD VERSION Analogue and pulses train

- Speed control
- Torque control
- Electronic gear
- Multipositioner
- Electronic cam
- Pressure Control

## EtherCAT

### ETHERCAT / COE CiA 402 Protocol

- Position Mode
- Velocity Mode
- Profile Velocity Mode
- Profile Torque Mode
- Homing Mode

- Interpolated Position Mode
- Cyclic Sync Position Mode
- Cyclic Sync Velocity Mode
- Cyclic Sync Torque Mode
- Touch Probe
- Electronic Gear
- Pressure Control

## CANopen

### CANOPEN CiA 402 Protocol

- Position Mode
- Velocity Mode
- Profile Velocity Mode
- Profile Torque Mode
- Homing Mode

- Interpolated Position Mode
- Cyclic Sync Position Mode
- Cyclic Sync Velocity Mode
- Cyclic Sync Torque Mode
- Touch Probe
- Electronic Gear
- Pressure Control

## Modbus

### MODBUS RTU Protocol

- Speed control
- Torque control
- Electronic gear
- Multipositioner
- Electronic cam
- Pressure Control

## PROFINET

### PROFINET RT - IRT Profidrive Protocol

- Speed control (AC1)
- Positioner in Program Mode(AC3)
- Manual positioner (AC3)
- Isochronous Control (AC4)
- Pressure Control

New CPU 32 Bit FPU high performance



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## ORDER CODE FOR TOMCAT460 EVO

Model Drive: TomCat460 Evo

TMC 4 6 0 EVO - 1 / 3 - C M - R

Current Size: 1/3: 1 / 3  
3/6: 3 / 6

Power Voltage: 400VAC

ST = No fieldbus CM = CanOpen/ModBus EC = EtherCat CoE PN = ProfiNet RT - IRT

☐ = No Feedback Option ☐ R = Optional Resolver

Example: TMC 460 EVO-1/3-CM-R TomCat460Evo 1.5A/3A three-phases version with CanOpen/Modbus and Resolver options

EtherCAT

PROFINET

CANopen



**TOMCAT460Evo SERVODRIVE**  
*Evolution in Motion*



# TomCat460Evo

Digital servodrive for brushless and DC motors

Digital, sinusoidal, 4-quadrant bidirectional drives, with internal brake switch, supplied with 400VAC three phase, for the control of rotary and linear brushless, DC motors and AC asynchronous motors with rated current up to 3A. Designed to work in EtherCat CoE, ProfiNet RT-IRT, CanOpen CiA 402, ModBus RTU, with analogue speed or frequency/direction reference. Hall sensors feedback, incremental encoder, absolute encoder or optional resolver. Enriched with software functionality, TomCat Evo is a concentrate of technology, easy to manage, reliable and with a competitive price.

### FIRMWARE FUNCTIONALITIES

- Speed control with adjustable ramps with or without Jerk
- Torque control with cogging compensation
- Torque limit control
- Multipositioner up to 64 indexes
- Electronic gear
- Electronic cam
- Rotary, linear and tubular motor control
- Electronic brake management
- Digital filters
- Pressure Control

### SPEED FEEDBACK

- Hall signals at 120°
- Incremental Encoder Line Driver 5V with/without Hall (+5V)
- 32bit Absolute Encoder SSI(Bin), BiSS(B-C), EnDat(2.1-2.2)
- Sensorless
- Resolver option

### INPUTS AND OUTPUTS

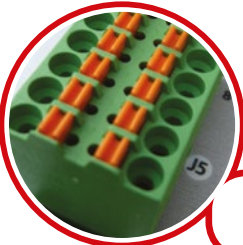
- Analog differential main input +/-10V (12bit)
- Analog auxiliary input 0/+10V (12bit) single ended
- 6 digital programmable inputs
- 3 digital programmable outputs
- Auxiliary encoder input
- Feedback output (repeated/emulated)
- Pulse/direction input for frequency reference
- CCW and CW pulse train input

### PROTECTIONS

- Alarm signals via 3 led
- Short-circuit of motor
- Power supply overvoltage
- Power supply undervoltage
- Heatsink overtemperature
- Rated current limit
- Hall sensor break
- Motor temperature thermal image
- SafeTorque Off (STO)



460VAC  
up to 1.8kW

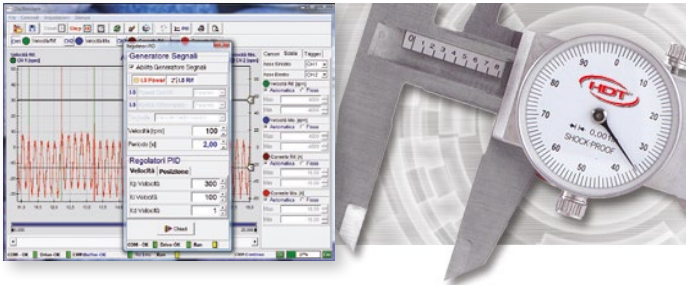


Easy-to-wire terminals



Micro USB 2.0 for programming

### PROGRAMMING SOFTWARE



#### CALIPER 4.0

- Programming software via micro USB2.0 for update e debug.
- Realtime oscilloscope with 100µs sampling on 4 simultaneous channels
- Possibility to update firmware by remote.

### LINEAR MOTORS



### AC ASYNCHRONOUS MOTORS



### TUBULAR LINEAR MOTORS



### AC BRUSHLESS MOTORS



### DC MOTORS



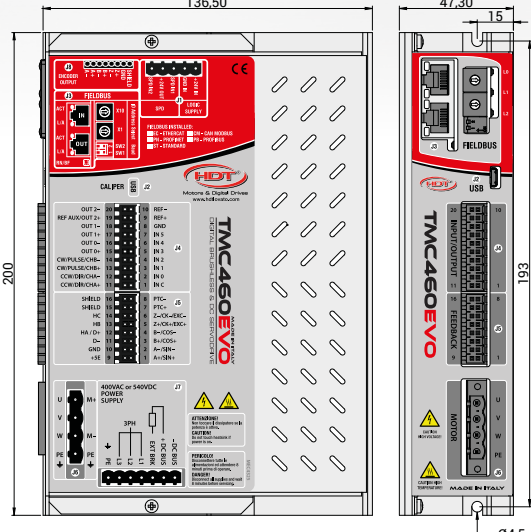
### Technical specifications

SIZES	U of M	TomCat460 EVO	
		1.5	3
Applied voltage	V	400 VAC 3Ph	
Min/Max supply voltage	V	400VAC ±15% 50/60Hz - 400VDC ÷ 700VDC	
Rated current	A	1.5	3
Peak current for 2"	A	3	6
Max output power	KW	0.9	1.8
Max output power (DC brushed)	KW	0.75	1.15
Control method		IGBT/PWM, sinusoidal or trapezoidal for brushless motors, control for brushed DC motors and Asynchronous AC motors (V/f)	
Logic power supply	VDC	+24VDC ± 20%	
External resistor (Optional)	VDC	R90W100R	
Feedback Input		Hall's sensors - Incremental enc. 5V Line Driver with/without Halls sensors - Abs. enc. SSI, BiSS, EnDat - Sensorless - Resolver option	
Feedback Output		Encoder's channel repetition or emulated encoder	
Type of motors driveable		Rotary, linear and tubular AC/DC brushless motors - DC brushed permanent magnets motors - Asynchronous motors	
Fieldbus		Modbus RTU - CanOpen CiA 402 - EtherCat COE - ProfiNet RT-IRT	
Analogue main reference		±10V Differential - 12Bit	
Analogue auxiliary reference		0/+10V Single ended - 12Bit	
Frequency reference		Pulse/Direction- A/B 5V Line Driver channels- CW/CCW (2MHz)	
Digital Inputs and Outputs		6 programmable inputs NPN/PNP - 3 programmable outputs NPN/PNP	
Control modes		Speed - Adjustable ramps - Torque control - Multipositioner - Electronic gear - Electronic cam - Pressure Control	
Limit switch management function		Braking in torque limit in case of P-OT, N-OT	
Digital filters		Notch filter - Iq filter - Digital inputs filter - Position Observer - Measured Speed Filter	
Protection functions		Short-circuit - Over/Undervolt. - Drive overtemp. - Hall's sensor break - Current limit	
Drive signalings		3 LED for status and alarm	
Hardware Safety functions		STO: SafeTorque Input circuit according to IEC61800-5-2:2007 <sup>1</sup>	
Software Safety functions		Fault Reaction and Emergency Stop modes: Inertia Stop - Ramp Stop - Torque Limit Stop Braking in torque limit in case of a limit switch.	
Brake management		Integrated. Immediate stop or in ramp	
Drive setting		Through CALIPER 4.0 software via Micro USB 2.0 port	
Approximative weight	Kg	1	1.2

### Drive/Motors matching

HDT motors	Tn	TomCat EVO 460 - current sizes	
		1.5	3
B05S	Nm	0.5	
B05M	Nm	0.9	
B05L	Nm	1.2	
B07S	Nm	1.2	
B07M	Nm	1.9	1.9
B07L	Nm	2.6	2.6
B07G	Nm		3.4
B10S	Nm		4
B10N	Nm		4.7
SR04M	Nm	0.32	
SR06M	Nm		1.3
SR08L	Nm		2.4

### Dimensions



<sup>1</sup> Pending Approval