

Parker Servo Systems

P Series



The new Parker P Series servo system combines compact, flexible, advanced functionality drives with high performance motors for a superior servo system, providing unique value to machine builders.

The P-Series drives operate with a variety of machine control architectures and offer sophisticated servo capability. A number of different feedback types are supported to drive a wide range of linear and rotary servo motors. The best matches are the P-Series motors, which include absolute encoders and populate motor nameplate data back to the drives for simplified commissioning.

Accurate and easy to use inertia detection leads to fast set-up of tuning parameters and minimal settling time. Advanced filtering and vibration suppression features can be used to increase throughput and improve positioning performance.



The Pulse version of the drive can be configured for step and direction control input and includes analog inputs for torque or velocity control. Select Indexer mode to create up to 64 position table entries triggered via inputs or over a RS422 interface.

For high speed, real-time network applications, the P-Series is available with EtherCAT, the fastest growing, most flexible industrial Ethernet protocol. Ideal for use with the Parker Automation Controller, the P-Series also follows the open standards for EtherCAT.

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P Series Servo Drive

Pulse Drive Specifications

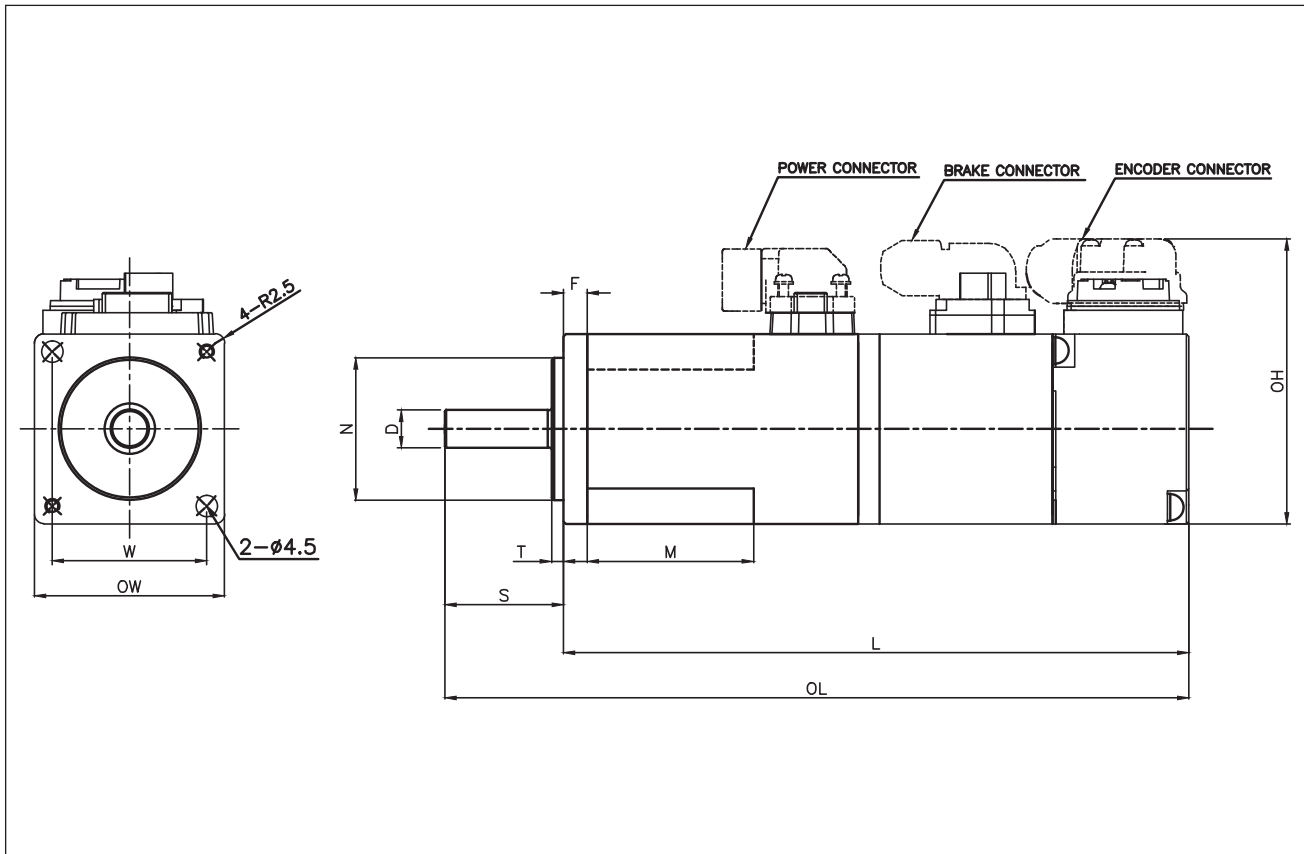
Motor Output Power		PD-04P	PD-10P	PD-35P
	Shaft Power @ Continuous Current	400 Watts	1000 Watts	3500 Watts
	Shaft Power @ Peak Current	1200 Watts	3000 Watts	10500 Watts
Drive Output Power				
	Continuous Current (RMS)	3.0 Amps	6.75 Amps	16.7 Amps
	Peak Current (RMS)	9.0 Amps	20.25 Amps	50.1 Amps
	Bus Voltage	340VDC		
Drive Input Voltage		100-120VAC 50/60Hz 230 VAC, 1/3Ø, 50/60Hz	230 VAC, 1/3Ø, 50/60Hz	
Drive Control Voltage		100-120VAC 50/60Hz 230 VAC, 1Ø, 50/60Hz	230 VAC, 1Ø, 50/60Hz	230 VAC, 1Ø, 50/60Hz
Performance				
	Servo update	62.5µ seconds		
	Accuracy	± 1 encoder count ; encoder dependent		
	Commutation	Sinusoidal		
Control				
	Indexer Function	64 user defined profiles, relative/absolute moves, registration, sequences and I/O selection		
	Position Control	Step and direction, CW and CCW		
	Speed Control	+/- 10V, 1:5000		
	Torque Control	+/- 10V		
Feedback				
	Encoder Input	Quadrature Incremental encoder, BiSS-C (absolute) encoder, EnDAT 2.2		
	Encoder Output	RS-422 compatible differential driver		
I/O				
	Digital input	16-channel, +24V common, user selectable functions		
	Digital output	8-channel, Differential (Isolated), user selectable functions		
	Analog input	2-channel, ±10V (max.), 12bits		
	Analog output	2-channel, ±10V (max.), selectable, 12bits		
Communications				
	USB	USB 2.0 for firmware upload and drive configuration		
	Serial	RS422 for PC or HMI interface, MODBUS-RTU		
	Standard	ANSI/ TIA/ EIA-422 standard		
	Baud Rate	9,600/ 19,200/ 38,400/ 57,600/ 115,200 bps		
	Configuration Software	Drive Support Tool		
Standards		CE (EMC, LVD UL/cUL recognized	CE (EMC, LVD) UL/cUL listed	CE (EMC, LVD) UL/cUL listed
Built-in Functions				
	Display	7 Segment LED, 5 digits for Status and Alarms		
	Node Selection	3 dip switches, 1 rotary for address 0-31		
	Dynamic Braking	Built-in, user selectable reaction		
	Internal Regeneration	100 ohm, 50W	40 ohm, 100W	12.6 ohm, 150W
	External Regeneration	50 ohm, 140W	30 ohm, 300W	30 ohm, 600W
Environmental				
	Temperature	0 - 50 °C (32 - 122 °F)		
	Humidity	0 - 90% non-condensing		
	Shock / Vibration	15g, 11msec half sign / 10-2,000Hz @ 2g		

P Series Servo Drive

EtherCAT Drive Specifications

Motor Output Power		PD-04C	PD-10C	PD-35C
	Shaft Power @ Continuous Current	400 Watts	1000 Watts	3500 Watts
	Shaft Power @ Peak Current	1200 Watts	3000 Watts	10500 Watts
Drive Output Power				
	Continuous Current (RMS)	3.0 Amps	6.75 Amps	16.7 Amps
	Peak Current (RMS)	9.0 Amps	20.25 Amps	50.1 Amps
	Bus Voltage	340VDC		
Drive Input Voltage		100-120VAC 50/60Hz 230 VAC, 1/3Ø, 50/60Hz	230 VAC, 1/3Ø, 50/60Hz	
Drive Control Voltage		100-120VAC 50/60Hz 230 VAC, 1Ø, 50/60Hz	230 VAC, 1Ø, 50/60Hz	230 VAC, 1Ø, 50/60Hz
Performance				
	Servo update	62.5µs		
	Accuracy	± 1 encoder count ; encoder dependent		
	Commutation	Sinusoidal		
EtherCAT				
	Supported Protocols	CoE, EoE, FoE		
	Drive Modes	Position Profile, Profile Velocity, Profile Torque, Interpolated Position, Homing Cyclic Synchronous Position, Velocity and Torque		
	Minimum Cycle Time	250µs		
Feedback				
	Encoder Input	Quadrature Incremental encoder, BiSS-C (absolute) encoder, EnDAT 2.2		
I/O				
	Digital input	8-channel, +24V common, user selectable functions		
	Digital output	4-channel, Differential (Isolated), user selectable functions		
	Safety	Safe Torque Off (STO) IEC61508-5-2 EN ISO13849, PL d, SIL2, Category3		
Communications				
	USB	USB 2.0 for firmware upload and drive configuration		
	Configuration Software	Drive Support Tool		
Standards		CE (EMC, LVD UL/cUL recognized	CE (EMC, LVD) UL/cUL listed	CE (EMC, LVD) UL/cUL listed
Built-in Functions				
	Display	7 Segment LED, 5 digits for Status and Alarms		
	Dynamic Braking	Built-in, user selectable reaction		
	Internal Regeneration	100 ohm, 50W	40 ohm, 100W	12.6 ohm, 150W
	External Regeneration	50 ohm, 140W	30 ohm, 300W	30 ohm, 600W
Environmental				
	Temperature	0 - 50 °C (32 - 122 °F)		
	Humidity	0 - 90% non-condensing		
	Shock / Vibration	15g, 11msec half sign / 10-2,000Hz @ 2g		

FAL Dimensions



(Unit: mm)

	OW	OH	OL	L	N	W	D	F	M	S	T
PM-FALR5AM8N	40	60	103.2	78.2	30	32.5**	8	5	23	25	2.5
PM-FAL01AM8N			120.2	95.2					35		
PM-FAL015AM8N			140.2	115.2					35		
PM-FAL01AM8N2*			156.6	131.6					35		

Notes

- FAL series does not include keyway

* Includes Static Brake

**Bolt Circle Diameter =46mm

Solid Models Available for Download parkermotion.com/pseries

Accessories

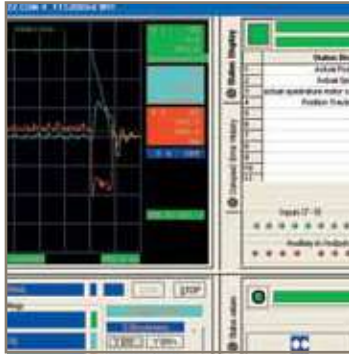
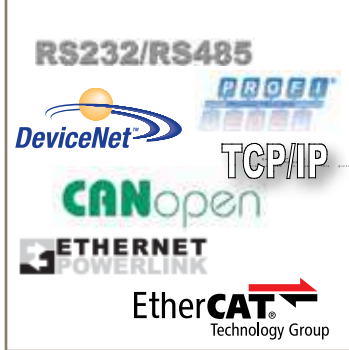
	Part Number	Description
Motor Power Cables	APCS-PN03LS	Motor Power Cable, 3 meters
	APCS-PNxxLS	xx=Length in meters : 05, 10, 20
	APCS-PFxxLS	Motor Power Cable, HIGH FLEX
Encoder Cables	APCS-EN03ES	Encoder Cable, 3meters
	APCS-ENxxES	xx=Length in meters : 05, 10, 20
	APCS-EFxxES	Encoder Cable, HIGH FLEX
	APCS-EN03ES1	Encoder Cable, Multi-Turn w/Battery, 3 meters
	APCS-ENxxES1	xx=Length in meters : 05, 10, 20
	APCS-EFxxES1	Encoder Cable, Multi-Turn w/Battery, HIGH FLEX
Brake Cables	APCS-BN03QS	Brake Cable, 3 meters (Motor power cable is required)
	APCS-BNxxQS	xx=Length in meters : 05, 10, 20
	APCS-BFxxQS	Brake Cable, HIGH FLEX
Connectors and I/O Cables	APC-CN102A	I/O Cable, 50-pin,Flying Lead, 2m long for PD-xxP
	APC-CN105A	I/O Cable, 50-pin,Flying Lead, 5m long for PD-xxP
	APCS-CN102A	I/O Cable, 20-pin,Flying Lead, 2m long for PD-xxC
	APCS-CN105A	I/O Cable, 20-pin,Flying Lead, 5m long for PD-xxC
	APC-CN1NNA	I/O Connector, 50-pin for PD-xxP
	APC-CN2NNA	I/O Connector, 20-pin for PD-xxC
	APC-CN3NNA	Drive Feedback Connector, 14-pin
	APCS-CN6K	STO Jumper, 8-pin
	APCS-STOxxA	STO Breakout cable for PD-xxC xx=Length in meters: 03=0.3m, 10=1.0m, 30=3.0m
	APCS-STO00A	STO Connector Kit only
	APC-VSCN1T	I/O Breakout Board, 50-pin for PD-xxP
	APCS-CN5L7U	USB Communication Cable
Brake Resistors	APCS-140R50	Brake Resistor 400W
	APCS-300R30	Brake Resistor 1kW
	APC-600R30	Brake Resistor 3.5kW

Notes:

Brake Cables are separate from the motor power cables.
Cables exit toward the front of the motor. Rear exit cables are also possible, consult factory for availability.

Cable Drawings Available for Download parkermotion.com/pseries



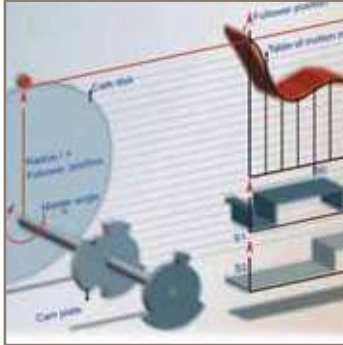


aerospace
 climate control
 electromechanical
 filtration
 fluid & gas handling
 hydraulics
 pneumatics
 process control
 sealing & shielding



Compax3 Series

Compact, Intelligent, Powerful
 Industrial Servo Drives & Drive/Controllers



ENGINEERING YOUR SUCCESS.

Compax3 Family Control Overview

Four levels of control to meet your drive requirements:

T10: Step/Direction and Analog Command Input

- Base servo drive
- ± 10 V analog
- Step and direction
- Torque/velocity control
- Position control
- Encoder tracking

T11: Servo Positioning Drive/Controller

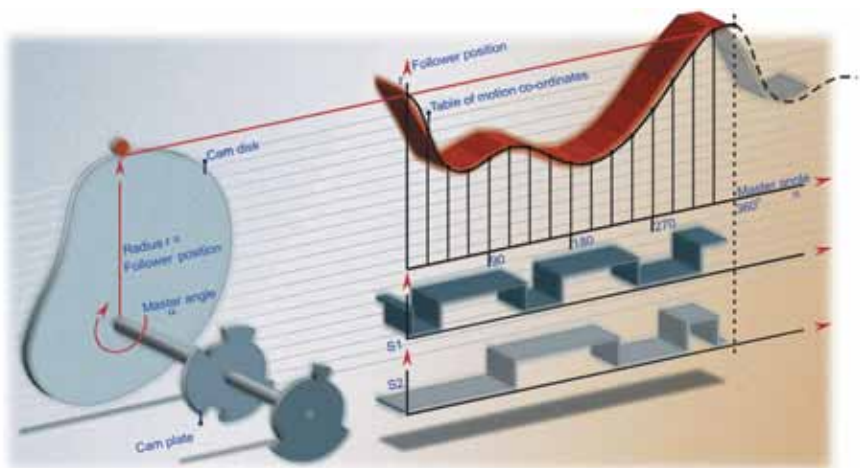
- Servo positioning drive
- Fast, easy setup - No code to learn
- Up to 31 stored profiles
- Profile select via digital inputs
- Multi-profile sequences
- Multiple homing routines
- PLC maintains all motion control execution, conditional, and math tasks
- Requires external logic to make all control decisions

T30: Programmable Drive/Controller

- Positioning with function modules according to PLCopen
- Fully programmable, IEC61131-3 controller
- Parker motion function blocks
- Simple to complex motion
- Access to all internal data/status registers (i.e., current, velocity)
- Make motion-related decisions based on values and conditions
- Stand-alone or PLC controlled
- Fully programmable and expandable I/O
- IEC61131-3 programming flexibility
- Complex motion

T40: Advanced Programmable Drive/Controller

- All T30 programming capabilities
- PLUS:**
- Electronic cam control
 - Superimpose motion
 - Electronic gearing
 - Position capture



Electronic cam control, available on the T40, is ideal for printing and packaging applications.

Industry Standard Communications (T11, T30, T40)

RS232/RS485

ETHERNET
POWERLINK

TCP/IP

CANopen

DeviceNet

EtherCAT[®]
Technology Group

PROFINET

The support of all common communication interfaces is an essential feature of open systems. Among these are Profibus, CANopen, DeviceNet as well as the modern Ethernet based EtherCAT and Powerlink interfaces. The open OPC communication standard simplifies system integration considerably. For dynamic, multi-axis synchronized applications, a real-time drive bus is available for all Compax3 family drives.

Digital I/O	The digital I/Os can be optionally extended by 12 I/Os using the M12 option	
Profibus	DP Versions:	DPV0 / DPV1
	Baud rate:	Up to 12 MHz
	Profibus ID:	C320
CANopen	Baud rate [kBit/s]:	20 – 1000
	Service data object:	SDO1
	Process data object:	PDO1 – PDO4
DeviceNet	I/O Data:	Up to 32 bytes
	Baud rate [kBit/s]:	125 to 500
	Participants:	up to 63 slaves
TCP/IP	Baud rate:	100 Mbits
	Port:	44822
	IP Address:	192.168.100.1
Powerlink	Baud rate:	100 Mbits (Fast Ethernet)
	Cycle time:	1 ms
EtherCAT	Baud rate:	100 Mbits (Fast Ethernet)
	Cycle time:	1 ms

IEC61131-3 Programming Environment (T30, T40)

IEC61131-3 is a manufacturer-independent programming environment for industrial automation devices. This programming interface brings tremendous flexibility to the user as well as worldwide recognition and support. The IEC61131-3 programmer may choose from five standard languages, both graphical and text-based, in order to develop the code for their application. Thus, users can program their device in the language or languages they are most comfortable with.

The graphical languages include:

- **Ladder diagram (LD)**
- **Function block diagram (FBD)**
- **Continuous function chart (CFC)**

The text-based languages include:

- **Structured text (ST)**
- **Instruction list (IL)**

An environment is also available for structuring program flow:

- **Sequential function chart (SFC)**

The standard IEC61131-3 programming language has gone beyond establishing itself in PLC systems in the last few years. Today it is also frequently used for PCs, SCADA systems and also motion control systems. The intelligent drive/controller versions of the Compax3 family use the IEC61131-3 interface to give users new levels of flexibility and power when developing their application.

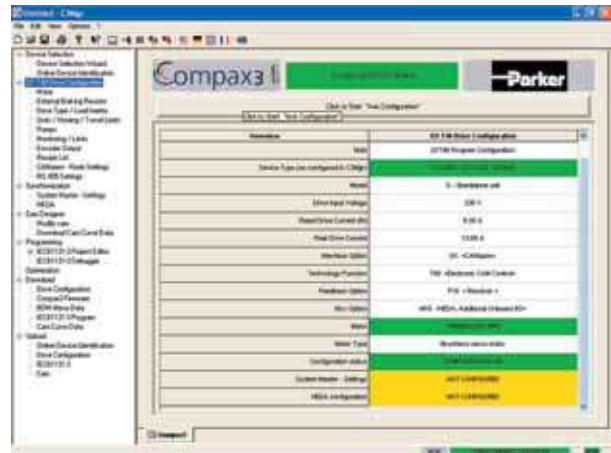
IEC61131-3 Features

- **Five programming languages to choose from for ease of use**
- **Worldwide support for programming languages**
- **Program portability**
- **Multiple languages may be combined within a single project**
- **Minimal training and support effort**
- **Portability from one application project to another project**
- **IEC programming editor built into the standard C3 Servo-Manager™ software**

Compax3 Software

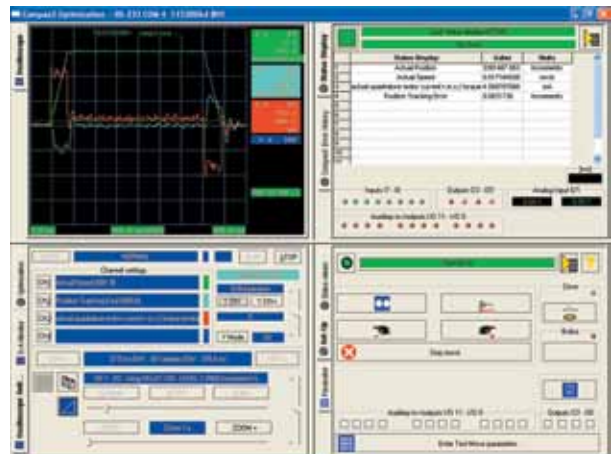
C3 ServoManager™ Development Software

- User-friendly, wizard-based drive configuration tool with navigation tree
- Powerful online help system – accessible in any screen
- MotorManager allows quick configuration of motors – automatically configures commutation settings
- Multilingual support: English, German or French at the click of a button
- C3 Profile Viewer – helps quantify S-curve acceleration



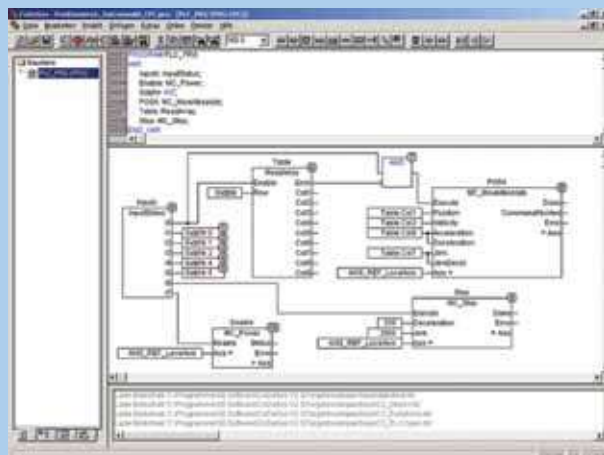
C3 Optimization Tool

- Powerful system diagnostic and troubleshooting tool
- Numerical and graphical status displays
- Error display with fault history
- Four-channel oscilloscope with ASCII and CSV export capability
- Commissioning feature allows motor jogging, preset moves, homing, drive enable and more
- Launched directly from within the C3 ServoManager™ development software
- Auto-tuning
- Input simulation



IEC61131-3 Project Development Editor

(IEC61131-3 programming environment for Compax3 T30 and T40)



- Graphics editor for LD, CFC, SFC and FBD; text editor for IL and ST
- Syntax coloring, multi-level undo/redo and context sensitive help
- Library management for creating, accessing and selecting IEC function libraries
- Launched directly from within the C3 ServoManager™ development software

Compax3 T10

Basic Drive

The Compax3 T10 technology level is a compact industrial digital servo drive available in 16 power levels producing up to 155 A (rms) continuous current and covering a broad range of input voltages. The T10 is the base Compax3 drive model and is designed for use with an external motion controller in centralized motion control systems.

Compax3 T10 drives are well-suited for combining with Parker's ACR motion controller products and together create a formidable multi-axis servo system. Parker also offers pre-made analog command cables for quick and efficient connectivity between any T10 drive and ACR or 6K controller.

The Compax3 T10 accepts both ± 10 V analog command signals and step-and-direction command signals for operating as a torque, velocity or position control drive.

Compax3 products are easily configurable via RS232/485 using Parker's C3 ServoManager™ software running on a PC or by utilizing the optional BDM keypad interface module. Using the C3 ServoManager™ software could not be easier. All setup is accomplished via intuitive drive configuration wizards and basic application information. Commissioning is even faster with the addition of software input simulation and autotuning.



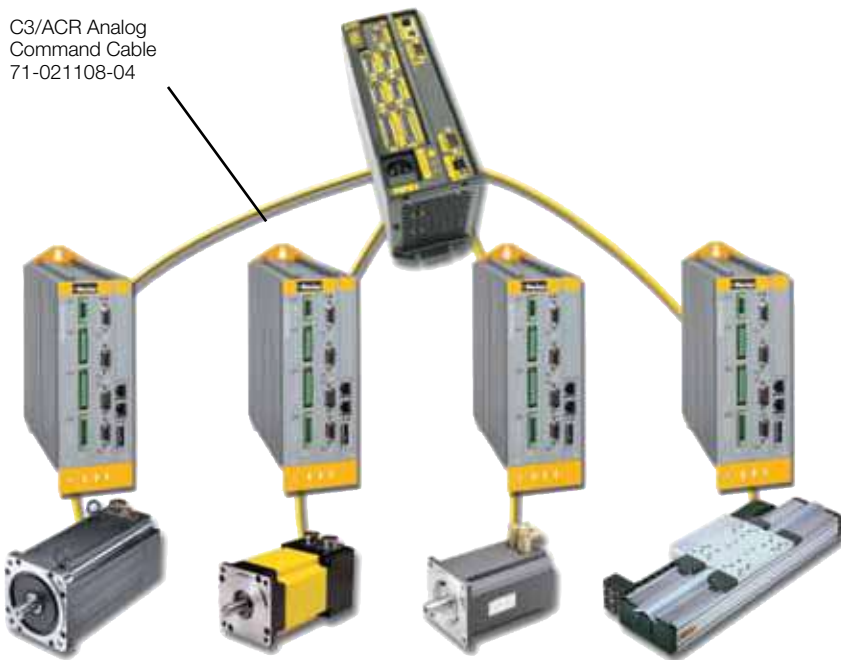
Compax3 T10 Features

- 120 – 480 VAC power input range
- Continuous current output from 2.5 A (rms) to 155 A (rms)
- Resolver, encoder or high-resolution SinCos® Hiperface™ and Endat 2.1 feedback
- ± 10 V analog command signals
- 5V/24V step-and-direction command signals
- Torque, velocity or position control modes
- Encoder tracking capability
- CE (EMC & LVD), UL and cUL

Compax3 T10 Accessories

See pages 16-17 for compatible Compax3 accessories.

C3/ACR Analog Command Cable
71-021108-04



Parker's ACR9000 multi-axis controller coordinated with four Compax3 T10 drives using ± 10 VDC command voltage

Compax3 Specifications

Common Specifications

Performance	Torque Loop	62.5 micro seconds
	Velocity Loop	125 micro seconds
	Position Loop	125 micro seconds
Command Inputs (T10 only)	Velocity & Torque Mode	14 bit, ±10 VDC analog
	Position Mode	Step & Direction; 5V or 24 V level (300 kHz input frequency); differential signal
Onboard Digital Inputs	Type	Sinking type, 24 V nom. @ 10 mA, high = 9-32 V, low <8 V
	Functions: Ixx T10 (4 dedicated) Ixx T11 (8 dedicated)	Drive stage enable, control input enable, reset, motor brake open/close Motion interrupt, Start, Drive Stage enable + 5 motion profile select inputs (or 4 inputs with a home input)
	Ixx T30 ⁽¹⁾ Ixx T40 ⁽¹⁾	User definable via IEC61131-3 programming environment User definable via IEC61131-3 programming environment
	Analog Inputs (T11, T30, T40)	Two (dedicated); 14 bit
Onboard Digital Outputs	Type	Sourcing type, rated for 24 V @ 100 mA, short-circuit protected
	Functions: Ixx T10 (4 dedicated) Ixx T11 (4 dedicated) Ixx T30 ⁽²⁾ Ixx T40 ⁽²⁾	No fault, drive enabled, in position window, at zero point No fault, position reached, power stage active, at zero point User definable via IEC61131-3 programming environment User definable via IEC61131-3 programming environment
	Encoder	Programmable up to 16,384 ppr (pre-quadrature)
	Relay	Normally closed, dry contact (switching current: 10-300 mA, switching voltage [AC/DC]: 100 mV-60 V)
	Analog Outputs (T11, T30, T40)	Two (dedicated); 8 bit; software configurable as monitor outputs
Communications	Type	RS232 (3-wire) on RS485 (2- or 4-wire); 8-bit word length, 1 stop bit, no parity
	Baud Rate	Fixed at 115.8 Kbaud for RS232; adjustable for RS485
	Multi-drop (RS485)	Up to 255 nodes
	Profibus ⁽³⁾	DPV0 supported; selectable Baud rate, 12 Mbd maximum transmission speed
	CANopen ⁽³⁾	DCiA, DS102 supported; selectable Baud rate, 1 Mbd maximum transmission speed
	DeviceNet ⁽³⁾	Polled, C05/cyclic I/O and bit strobe; 500 kBit/second max speed
	Ethernet ⁽³⁾	100 Mbit TCP/IP
	ETHERNET Powerlink ⁽³⁾ ETHERCAT ⁽³⁾	100 Mbits , < 1us jitter, 1 ms cycle timeation 100 Mbits , < 1us jitter, 1 ms cycle timeation
Environmental	Temperature	Still air: 33-113°F (0-45°C); moving air: 33-122°F (0-50°C)
	Humidity	0-75%, non-condensing
	IP Class	IP 20
Protection	Short Circuit	Phase-to-phase, phase-to-ground
	Brownout	Below 70 VDC
	Over Voltage	Will shut down when power dissipation capacity is exceeded
	Over Temperature	Motor 330°F (170°C), Drive 221°F (105°C)
	I²t	Error generated if peak current > 3 seconds
	Safety Isolation	VDE0160
Standards	UL, cUL, CE (EMC), CE (LVD)	

⁽¹⁾ 8 programmable, 12 additional I/O points available as an option

⁽²⁾ 4 programmable, 12 additional I/O points available as an option

⁽³⁾ Applicable only to models supporting this option

Compax3 SXXX V2 Specifications		S025 V2	S063 V2	S100 V2	S150 V2
Drive Input Power	Voltage	80 – 253 VAC	80 – 253 VAC	80 – 253 VAC	80 – 253 VAC
	Phase	1Ø	1Ø	3Ø	3Ø
	Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
	24 VDC Logic Power (Req'd)	24 VDC ±15%	24 VDC ±15%	24 VDC ±15%	24 VDC ±15%
Drive Output Power	PWM (selectable)	16/32 kHz	16/32 kHz	16/32 kHz	8/16/32 kHz
	Continuous Current (RMS)	2.5 Amps	6.3 Amps	10 Amps	15 Amps
	Peak Current (RMS)	5 Amps	12.6 Amps	20 Amps	30 Amps
	Commutation	Sinusoidal	Sinusoidal	Sinusoidal	Sinusoidal
Internal Regeneration Capacities/Storable Energy		560 µF / 15Ws	1120 µF / 30Ws	780 µF / 21Ws	1,170 µF / 31Ws

Compax3 SXXX V4 Specifications		S038 V4	S075 V4	S150 V4	S300 V4
Drive Input Power	Voltage	80 – 525 VAC	80 – 525 VAC	80 – 525 VAC	80 – 525 VAC
	Phase	3Ø	3Ø	3Ø	3Ø
	Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
	24 VDC Logic Power (Req'd)	24 VDC ±15%	24 VDC ±15%	24 VDC ±15%	24 VDC ±15%
Drive Output Power	PWM (selectable)	16/32 kHz	16/32 kHz	8/16/32 kHz	8/16/32 kHz
	Continuous Current (RMS)	3.8 Amps	7.5 Amps	15 Amps	30 Amps
	Peak Current (RMS)	7.5 Amps	15 Amps	30 Amps	60 Amps
	Commutation	Sinusoidal	Sinusoidal	Sinusoidal	Sinusoidal
Internal Regeneration Capacities/Storable Energy		235 µF / 37Ws	470 µF / 75Ws	690 µF / 110Ws	1,100 µF / 176Ws

Compax3 H Specifications		H050 V4	H090 V4	H125 V4	H155 V4
Drive Input Power	Voltage	350 – 528 VAC	350 – 528 VAC	350 – 528 VAC	350 – 528 VAC
	Phase	3Ø	3Ø	3Ø	3Ø
	Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
	24 VDC Logic Power (Req'd)	24 VDC ±15%	24 VDC ±15%	24 VDC ±15%	24 VDC ±15%
Drive Output Power	PWM	8 kHz	8 kHz	8 kHz	8 kHz
	Cont. Current (RMS)	50 Amps @ 400 VAC	90 Amps @ 400 VAC	125 Amps @ 400 VAC	155 Amps @ 400 VAC
	Peak Current (RMS)	75 Amps for 5 sec	135 Amps for 5 sec	187.5 Amps for 5 sec	232.5 Amps for 5 sec
	Commutation	Sinusoidal	Sinusoidal	Sinusoidal	Sinusoidal
Internal Regeneration Capacities/Storable Energy		2600 µF / 602Ws	3150 µF / 729Ws	5000 µF / 1158Ws	5000 µF / 1158Ws

Compax3 M Specifications		Power Supply Units			Axis Units		
		MP10 D6	MP20 D6	M050 D6	M100 D6	M150 D6	M300 D6
Drive Input Power	Voltage	240 – 480 VAC	240 – 480 VAC	680 VAC	680 VAC	680 VAC	680 VAC
	Phase	3Ø	3Ø	DC Bus	DC Bus	DC Bus	DC Bus
	Frequency	50/60 Hz	50/60 Hz	–	–	–	–
	24 VDC Logic Power (Req'd)	24 VDC	24 VDC	Bussed 24 VDC	Bussed 24 VDC	Bussed 24 VDC	Bussed 24 VDC
Drive Output Power	PWM	–	–	8/16/32 kHz	8/16/32 kHz	8/16/32 kHz	8/16/32 kHz
	Continuous Current*	15 Amps	30 Amps	4 Amps	8 Amps	12.5 Amps	24 Amps
	Peak Current*	30 Amps	60 Amps	8 Amps	16 Amps	25 Amps	48 Amps
	Commutation	–	–	Sinusoidal	Sinusoidal	Sinusoidal	Sinusoidal
Internal Regeneration Capacities/Storable Energy		–	–	110 µF / 10Ws @ 480 Volts	220 µF / 21Ws @ 480 Volts	220 µF / 21Ws @ 480 Volts	440 µF / 42Ws @ 480 Volts

Compax3 Accessories

	Part Number	Product Description
Power Supply (required for C3M only)	C3MP10D6USBM00NA	10kW power supply for Compax3M axis units; 240/480 3-phase
	C3MP20D6USBM00NA ⁽¹⁾	20kW power supply for Compax3M axis units; 240/480 3-phase
Breakout Modules	VM15-PM	15-pin breakout module and 2' cable to Compax3 feedback or analog encoder
	VM15-PF	15-pin breakout module and 2' cable to Compax3 digital I/O
	VM15-PM-05	15-pin breakout module and 5' cable to Compax3 feedback or analog encoder
	VM15-PF-05	15-pin breakout module and 5' cable to Compax3 digital I/O 15-pin breakout module and 5' cable to Compax3 digital I/O
	VM15-PM-10	15-pin breakout module and 10' cable to Compax3 feedback or analog encoder
	VM15-PF-10	15-pin breakout module and 10' cable to Compax3 digital I/O
Connector Kits	ZBH02/01	Replacement connector kit for Compax3 S025 V2, S063 V2 products
	ZBH02/02	Replacement connector kit for Compax3 S038 V4, S075 V4, S150 V4 products
	ZBH02/03	Replacement connector kit for Compax3 S300 V4 products
	ZBH04/01	Replacement connector kit for Compax3 M050D6, M100D6, M150D6
	ZBH04/02	Replacement connector kit for Compax3 M300D6
	ZBH04/03	Replacement connector kit for Compax3 MP10D6 and MP20D6 (power supply)
Communication Cable	SSK1/02	8' cable, RS232 serial communication cable (PC to Compax3)
	SSK32/20	Communications dongle for C3Hxxx; one unit ships with drive - replacement only
	VBK17/01	X10 to X10 jumper - replacement only for C3H
Braking Resistors	BRM08/01	Braking resistor for Compax3 S025, S038 units (60 W continuous, 250 W peak)
	BRM05/01	Braking resistor for Compax3 S063, S075 units (180 W continuous, 2300 W peak)
	BRM05/02	Braking resistor for Compax3 S150 unit (570 W continuous, 6900 W peak)
	BRM04/01	Braking resistor for Compax3 S300 units (570 W continuous, 6900 W peak)
	BRM04/02	Braking resistor for Compax3 S300 units (740 W continuous, 8900 W peak)
	BRM04/03	Braking resistor for Compax3 S300, MP20D6 units (1500 W continuous, 18000 W peak)
	BRM09/01	Braking resistor for Compax3 S100 units (570 W continuous, 6900 W peak)
	BRM10/01	Braking resistor for Compax3 S150V4 unit (570 W continuous, 6900 W peak)
	BRM11/01	Braking resistor for Compax3 H0xx units (3500 W continuous, 19.3 kW peak)
	BRM12/01	Braking resistor for Compax3 H1xx units (4500 W continuous, 24.8 kW peak)
	BRM13/01	Braking resistor for Compax3 MP10D6 (500 W cont)
	BRM14/01	Braking resistor for Compax3 MP20D6 (500 W cont, two 15ohm in series)
	EMC Accessories	MDR01/04
MDR01/01		Compax3 motor output filter (rated up to 16 A continuous current motors)
MDR01/02		Compax3 motor output filter (rated up to 30 A continuous current motors)
NFI01/01		Mains Filter ⁽¹⁾ for Compax3 S025, S063 units
NFI01/02		Mains Filter ⁽¹⁾ for Compax3 S038, S075, S150 units
NFI01/03		Mains Filter ⁽¹⁾ for Compax3 S300 units
NFI02/01		Mains Filter ⁽¹⁾ for Compax3, 50A
NFI02/02		Mains Filter ⁽¹⁾ for Compax3, 90A
NFI02/03		Mains Filter ⁽¹⁾ for Compax3, 125A & 155A
NFI03/01		Mains Filter ⁽¹⁾ for Compax3, 25A for C3MP10D6 power supply
NFI03/02		Mains Filter ⁽¹⁾ for Compax3, 25A for C3MP20D6 power supply
Communication Accessories	71-017635-01	5' Ethernet crossover cable
	71-028656-xx ⁽²⁾	Shielded ETHERNET Powerlink cable (from ACR to Compax3/Aries)
	BUS08/01	Profibus cable connector with integral bus terminal switch (plug only)
	BUS10/01	CANopen cable connector with integral bus terminal switch (plug only)
Compax3 I10 T10 Drive Command Cables	71-021108-xx ⁽²⁾	Compax3 I10 T10 drive-to-ACR analog command cable (torque, velocity mode only)

⁽¹⁾ For Class A (EMC) compliance for commercial or residential applications where motor cable lengths exceed 33 feet (10 m).

⁽²⁾ xx denotes cable length in feet; available in 4' and 10' lengths.

BDM01/01 Compax3 Diagnostic Interface Module

The BDM01/01 is a palm-sized, transportable diagnostic module that can be used to transmit drive configuration data to/from multiple Compax3 units, without the need for using a PC. BDM01/01 features include:



- **Upload/download transfer of drive configuration files to other Compax3 units***
- **Online display of drive, error status**
- **Online modification of drive parameters, such as error reset, jogging, motor brake open/close, tuning gains, etc.****
- **Plugs into RS232 port; hot-swappable**
- **Multi-language capable – English, German, French**
- **Modification of up to 15 user-defined program variables when used with Compax3 T30 or T40 units**

* Identical control level

** Features depend on control level

Compax3 Feedback Cables

Feedback cables are compatible with:

- **BE 23, 34 (BE 23 with resolver and encoder only)**
- **M Series 105 - 205**
- **MaxPlus 72 - 190**
- **MaxPlusPlus (MPP)**
- **NeoMetric/J Series 34, 70, 92**
- **SMN 60 - 142**

Description	Part Number*
Resolver	F-2B1-xx
SinCos/Stegman/Hiperface	F-2B1-xx
Encoder	F-2C1-xx

* -xx denotes cable length in feet; motor power and feedback cables available in standard lengths of 10, 25 and 50 feet (other lengths also available).

Compax3 Power Cables

Description	Compatibility	Part Number
240 VAC (<6 A_{RMS})	<ul style="list-style-type: none"> • BE 23 • MaxPlusPlus (MPP) • NeoMetric/J Series 	P-1A1-xx
240/480 VAC (<20 A_{RMS})	<ul style="list-style-type: none"> • BE 34 • M Series • MaxPlus • MaxPlusPlus (MPP) • NeoMetric/J Series • SMN Series 	P-3B1-xx
240/480 VAC (20A < I < 30 A_{RMS})	<ul style="list-style-type: none"> • M Series • MaxPlusPlus (MPP) 	P-4B1-xx
240/480 VAC (20A < I < 30 A_{RMS})	<ul style="list-style-type: none"> • M Series • MaxPlus • MaxPlusPlus (MPP) 	P-4B2-xx
240/480 VAC (30 A < I < 50 A_{RMS})	<ul style="list-style-type: none"> • M Series • MaxPlus • MaxPlusPlus (MPP) 	P-6B2-xx
>50 A_{RMS}		Contact Factory

-xx denotes cable length in feet; motor power and feedback cables available in standard lengths of 10, 25 and 50 feet (other lengths also available).

Compax3 Ordering Information

Fill in an order code from each of the numbered fields to create a complete model order code.

Order Example:

①	②	③	④
S025 V2	F10	I10T10	M00

① Series

S025 V2	2.5 A (rms) / 120 - 240 VAC, 1Ø
S063 V2	6.3 A (rms) / 120 - 240 VAC, 1Ø
S100 V2	10 A (rms) / 120 - 240 VAC, 3Ø
S150 V2	15 A (rms) / 120 - 240 VAC, 3Ø
S038 V4	3.8 A (rms) / 208 - 480 VAC, 3Ø
S075 V4	7.5 A (rms) / 208 - 480 VAC, 3Ø
S150 V4	15 A (rms) / 208 - 480 VAC, 3Ø
S300 V4	30 A (rms) / 208 - 480 VAC, 3Ø
H050 V4	50 A (rms) / 400 - 480 VAC, 3Ø
H090 V4	90 A (rms) / 400 - 480 VAC, 3Ø
H125 V4	125 A (rms) / 400 - 480 VAC, 3Ø
H155 V4	155 A (rms) / 400 - 480 VAC, 3Ø
M050 D6*	4 A (rms) / 208 - 480 VAC 3f
M010 D6*	*8 A (rms) / 208 - 480 VAC 3f
M150 D6*	12.5 A (rms) / 208 - 480 VAC 3f
M300 D6*	24 A (rms) / 208 - 480 VAC 3f

② Feedback

F10	Standard resolver feedback support, Resolver position resolution: 19 bit; repeatability: $\pm 0.005^\circ$
F11	SinCos® position resolution: 21 bit; SinCos® (Hiperface™) high-resolution encoder support; absolute accuracy: $\pm 0.002^\circ$; Stegmann
F12	Quadrature rotary/linear encoder, sine-cosine linear, distance-coded encoder feedback support Resolution, accuracy: dependent upon specification of encoder used; Endat 2.1 compatible feedback

③ Control Options**

I10 T10	Drive only
I11 T11	Basic positioning via digital inputs (requires M00)
I11 T30	IEC with digital I/O
I11 T40	IEC Cam control w/ digital I/O
I12 T11	Advanced positioning via inputs and RS232/485 (requires M12)
I20 T11	Positioning via Profibus DP
I20 T30	IEC with Profibus DP
I20 T40	IEC Cam control w/ Profibus DP
I21 T11	Positioning via CANopen
I21 T30	IEC with CANopen
I21 T40	IEC Cam control w/ CANopen
I22 T11	Positioning via DeviceNet
I22 T30	IEC with DeviceNet
I22 T40	IEC Cam control w/ DeviceNet
I30 T11	Positioning/Interpolation via EPL (includes TCP/IP)***
I30 T30	IEC with EPL (includes TCP/IP)***
I30 T40	IEC Cam control w/EPL (includes TCP/IP)***
I31 T11	Positioning via EtherCAT
I31 T30	IEC with EtherCAT
I31 T40	IEC Cam control with EtherCAT

④ Additional Options

M00	No options
M12	Additional onboard I/O only (available on I12 T11, IxxT30 and IxxT40 units)

* Requires power supply, see page 16 to order by part numbers.

** Communication Control Options:

I20 Profibus - DPV0 (slave) Transmission speed: up to 12Mbd Available on T11, T30, T40 units

I21 CANopen - DS402 (slave) Transmission speed: selectable (up to 1Mbd) Available on T11, T30, T40 units

I22 DeviceNet slave available on T11, T30 and T40 units Transmission speed: 125, 250, 500 kBits/second

I30 ETHERNET Powerlink: Use I30 T11 with ACR9030/9040

I31 EtherCAT requires an external EtherCAT master provided by user

*** The I30 option includes both EPL communication for fieldbus and TCP/IP for configuration via C3 ServoManager.