

XtrapulsPac AC Servo-controllers



Functions

- DS402 including capture & master-slave
- Camming function
- Stepper emulation
- Analog operation

Power stage

- IGBT power stage
- Nominal current 2.5 A / ... 8.0 A / 230 V

Interfaces

- RS 232
- CANopen®, EtherCAT® fieldbuses
- Digital and analog inputs and outputs

Safety

- Safe Torque Off SIL 2

Tools

- Setup assistant
- Multi-axis programming and diagnostic

XtrapulsPac, AC Servo-controllers

The XtrapulsPac Drive is a flexible low power AC servo-controllers with outstanding real-time application capabilities. The basic version already offers the required interfaces and functions to cover a wide range of single- and multi-axis applications.

Electrical specification

Drive types	PAC-230		
	/05	/10	/17
Peak current [Arms]	05	10	17
Cont. current [Arms]	2.5	5.0	8.0
Voltage	1x230 VAC, 50..60 Hz		

Control loops

- Digital drive for AC synchronous motors
- Current loop 62.5 μ s
- Speed and position loop \leq 500 μ s
- Closed loop control of position, speed or torque
- Max. speed up to 25'000 rpm

Feedbacks

- 12 bit resolver interface
- Incremental encoder interface
- Hall sensor interface
- Interface for SinCos encoders with absolute commutation track, HiPace[®] including multitrans

Communication interfaces

- RS232 up to 19.2 kbit/s baud rate
- CANopen[®], EtherCAT[®] fieldbuses
- DIP switches for node address

Safety features

- Safe Torque Off SIL 2

I/O interfaces

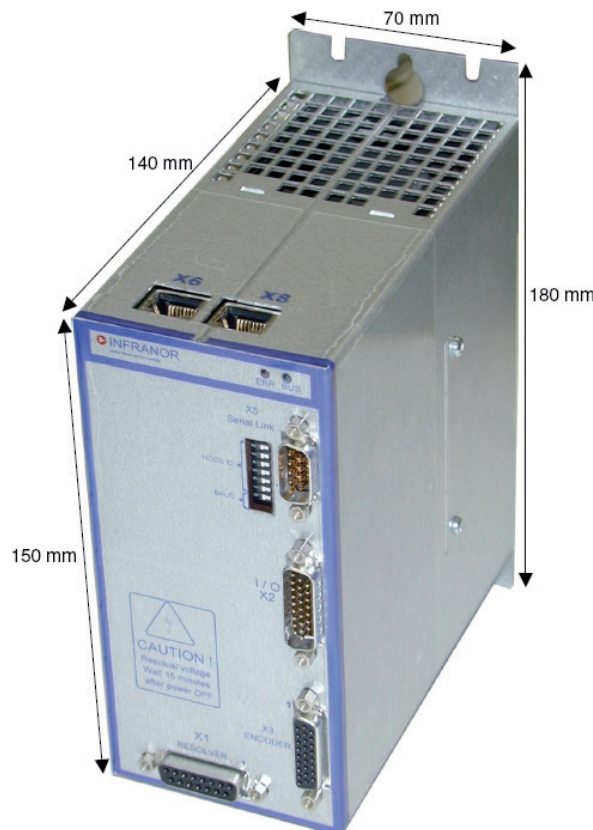
- Digital I/O's with dedicated functions (Enable, limit switches, home sensor, etc.)
- User configurable digital outputs
- All digital I/O's opto-isolated
- Analog inputs \pm 10 V / 12 bit resolution
- Analog outputs \pm 2 V / 8 bit resolution
- "Amplifier OK" output
- Motor brake control

Standards

- CE
- UL listed



Mechanical dimensions



Application features

With the flexible functional concept that allows to choose its behaviour, one single drive type can meet few different requirements, from the simple analog drive of a standard motion command of an entire machine module.

Functional concept

- Choice of drive behaviour:
 - Basic Drive (ex. CANopen DSP-402)
 - Stepper emulation
 - Analog operation

- Function libraries:
 - Standard modes (DSP-402)

Tools

- Project manager
- Digital oscilloscope
- Motor libraries
- Multiaxis monitoring
- Setup wizards for motor and drive
- Auto-tuning function for control loops
- Auto-phasing function for motor adjustment

Programming Tool

The screenshot displays the 'Indexer motor configuration' software interface. The main window is titled 'Indexer motor configuration' and contains several panels:

- Motor data:** Manufacturer: Mavlor, Motor name: BLS71A/230V, Motor type: Rotative, Special/Person code: 06/21/2007. Parameters include Maximum speed (7200 rpm), Rated speed (6900 rpm), Peak current (8.42 A), Stall current (2.11 A), Torque constant (0.38 Nm/A), Inertia (0.03 g.m2), and Inductance (7.4 mH).
- Drive parameters:** Current limit (Max. current: 8.00 A, Rated current: 2.11 A), I2t protection (I2t mode: Fus), Speed limit (Max. Speed: 720 rpm).
- Indexer control:** A state machine diagram showing transitions between states: Power disabled, Ready to Switch On, Switch On, Operation Enable, Quick Stop Active, Power enabled, and Fault. The 'Servo Mode' is currently 'Running'.
- Speed and Position:** Speed (deg/s): 00000004.34, Position (deg): 00000344.60.
- Inputs/Outputs:** Drive Control (On/Off), Homing profile, Position profile (Displacement: 000000000.00), Velocity profile (Speed setpoint: 0), Sequence mode (Seq. in progress: 0, Seq. to start: 0-127).
- PD0 mapping:** A table for configuring transmission types and object IDs for various parameters.

Transmission type	ObjID	1	2	3	4
Receive PDD1	FD 202	ControlW			
Receive PDD2	FD 302	TargetV			
Receive PDD3	1 402	IPrec1			
Receive PDD4	0 502	TargetPos			
Transmit PDD1	FD 182	StatusW			
Transmit PDD2	FD 282	VelAct			
Transmit PDD3	1 382	ActPos			
Transmit PDD4	0 482	ActPos			

Communication cycle period (µs): 10000 SYNC producer Export this config. to the user program