

## 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  $\mu$ s
- Speed and position loop  $\leq$ 500  $\mu$ 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, Hiperface<sup>®</sup> including multitrans

## Communication interfaces

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

## Safety features

- Safe Torque Off SIL 2

## I/O interfaces

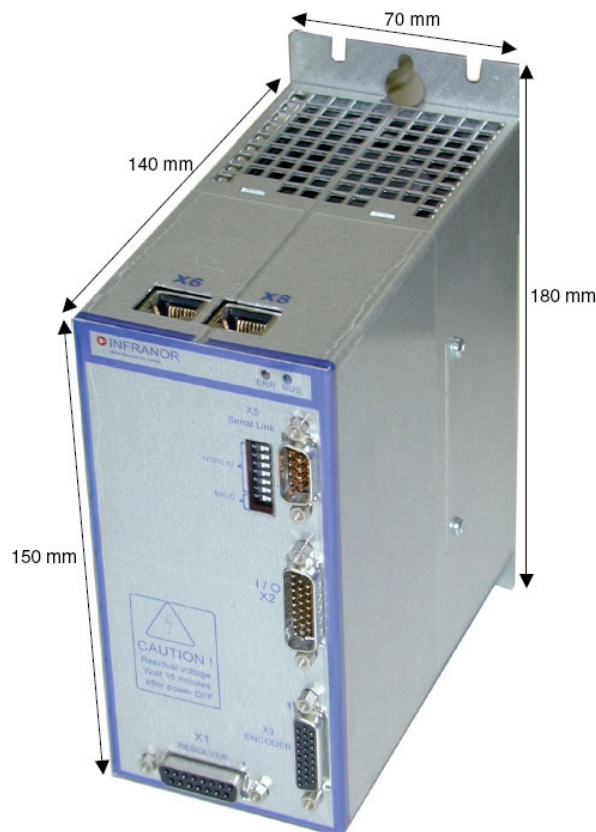
- Digital I/O's with dedicated functions (Enable, limit switches, home sensor, etc.)
- User configurable digital outputs
- All digital I/O's opto-isolated
- Analog inputs  $\pm$  10 V / 12 bit resolution
- Analog outputs  $\pm$  2 V / 8 bit resolution
- "Amplifier OK" output
- Motor brake control

## 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. It includes several panels for configuring motor parameters and control logic.

**Motor data:**

- Manufacturer: Mavlor
- Motor name: BLS71A/230V
- Motor type: Rotative
- Special/Person code: 06/21/2007
- Maximum speed (rpm): 7200
- Rated speed (rpm): 6900
- Peak current (A): 8.42
- Stall current (A): 2.11
- Torque constant (Nm/A): 0.38
- Inertia (g.m2): 0.03
- Inductance (mH): 7.4

**Drive parameters:**

- Current limit: Max. current (A): 8.00, Rated current (A): 2.1
- I2t protection: I2t mode: Fus
- Speed limit: Max. Speed (rpm): 720

**Indexer control:**

- Power disabled: Switch On Disabled, Ready to Switch On
- Fault: Fault reaction active, Fault
- Power enabled: Switch On, Operation Enable, Quick Stop Active
- Servo Mode: Warning, Busy, User program status (Running)
- Speed (deg/s): 00000004.34
- Position (deg): 000000344.60

**Drive Control:**

- On/Off: On, Off
- Enable brake control: Enable brake control
- Start motor phasing: Start motor phasing
- Brake on: Brake on
- Homing profile: Start Homing procedure
- Position profile: Displacement (deg): 000000000.00
- Velocity profile: Speed setpoint (deg/s): 0
- Sequence mode: Seq. in progress, Seq. to start (0-127)
- Analog outputs: AN\_OUT1, AN\_OUT2

**Inputs:** IN1, IN2, IN3, IN4, IN5, IN6, IN7, IN8, IN9

**Cams:** CAM1, CAM2, CAM3, CAM4, CAM5, CAM6, CAM7, CAM8, CAM9, CAM10, CAM11, CAM12, CAM13, CAM14, CAM15, CAM16

**Outputs:** OUT1, OUT2, OUT3, OUT4

**Analog inputs:** AN1: 0, AN2: -108

**PDO mapping table:**

Transmission type	CobID	1	2	3	4
Receive PDO1	FD 202	ControlW			
Receive PDO2	FD 302	TargetV			
Receive PDO3	1 402	IPrec1			
Receive PDO4	0 502	TargetPos			
Transmit PDO1	FD 182	StatusW			
Transmit PDO2	FD 282	VelAct			
Transmit PDO3	1 382	ActIPos			
Transmit PDO4	0 482	ActPos			

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

# Addresses

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## The Infranor Group

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Infranor creates added value for its customers by providing tailor-made motion solutions.

Based on strong working relationships, Infranor offers extensive market know-how, comprehensive engineering skills and a wide range of high-quality products leading to productivity gains and therefore to comparative advantages for its customers in their respective markets.

## The Infranor Brand

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The Infranor Brand is a synonym for:

- Excellence
- Cooperation
- Added value