INFRANOR

Xtrapuls CD1-EM
Robust AC Servo-drives
for embedded applications

Functions
– Multi-purpose AC servo-drives
– Configurable standard modes of operation
– Resolver and encoder feedback

Power stage
– AC or DC supply
– IGBT power stage
– Dynamic braking
– Maximum current 90 A / 480 VAC

Interfaces
– RS-232
– Various fieldbusses
– Digital and analog I/Os

Tools
– Setup assistant
– Auto-tuning
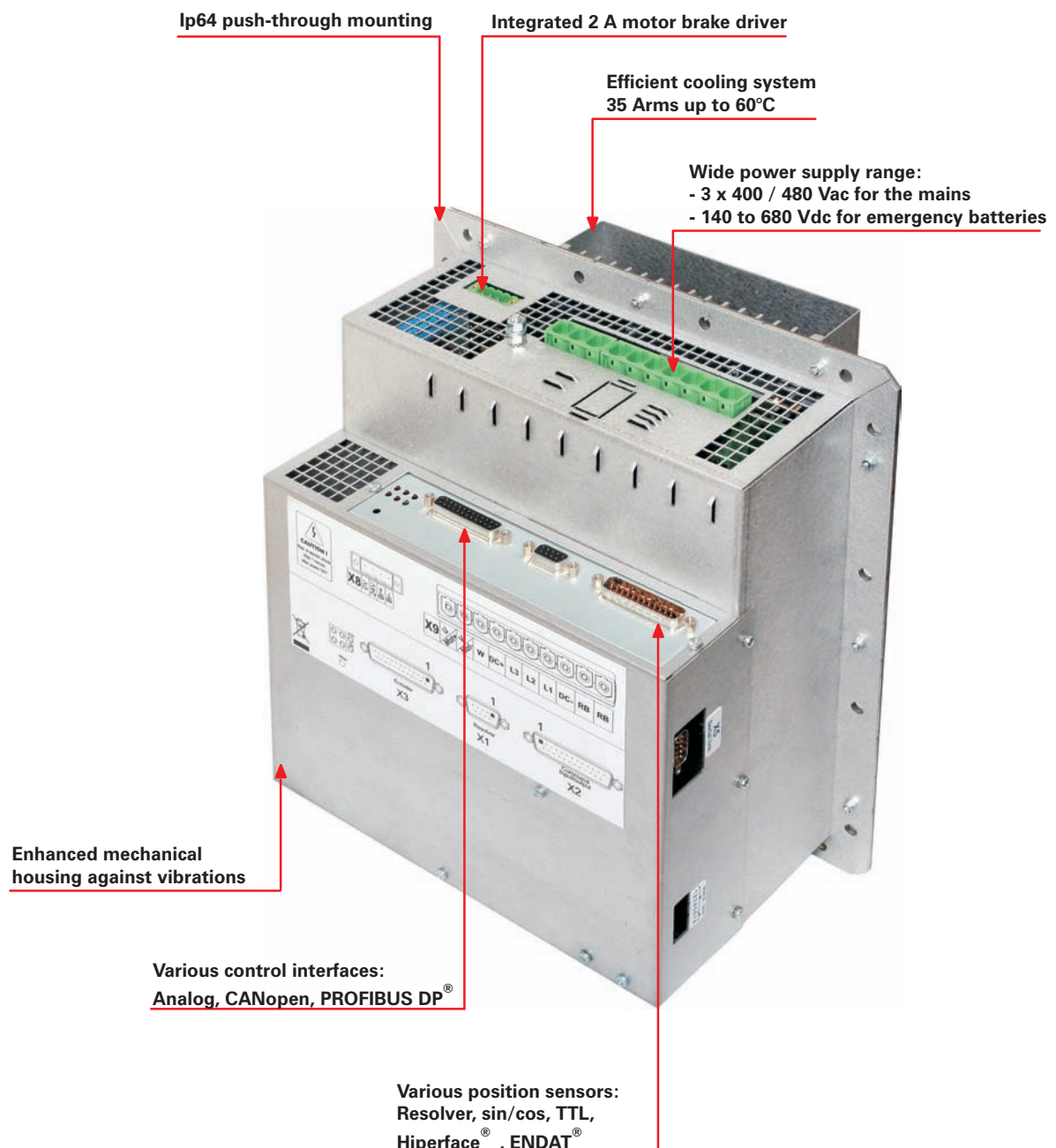– Motor libraries
– Oscilloscope

XtrapulsCD1-EM, AC Servo-drives

The described XtrapulsCD1 versions are optimized for embedded applications in particular for wind turbine pitch control. XtrapulsCD1 is a family of configurable multi-purpose AC servo-drives for the solution of very dynamic and accurate regulation tasks. The compliance with the various fieldbus standards allows an easy connection of the drive to the hardware and software of the chosen control system.

Electrical data

Type			CD1-EM 400 / 70	CD1-EM 400 / 90
Output peak current 1s	[Arms]		70	90
Output nominal current	[Arms]		35	35
Input voltage			3 x 400 / 480 VAC, 50..60 Hz or 140 to 680VDC	

Highlights

Ip64 push-through mounting

Integrated 2 A motor brake driver

Efficient cooling system 35 Arms up to 60℃

Wide power supply range:
- 3 x 400 / 480 Vac for the mains
- 140 to 680 Vdc for emergency batteries

Enhanced mechanical housing against vibrations

Various control interfaces:
Analog, CANopen, PROFIBUS DP[R]

Various position sensors:
Resolver, sin/cos, TTL,
Hiperface[R]**, ENDAT**[R]

Communication interfaces

- RS-232 up to 19.2 kbit/s baud rate
- CANopen up to 1 Mbit/s baud rate
- PROFIBUS DP® up to 12 Mbit/s baud rate
- Switches for node address

I/O interfaces

- Dedicated digital I/Os (Enable, limit-switch, homing, etc.)
- All digital I/Os opto-isolated
- Analog inputs ±10 V / 14 bit resolution
- Analog output ±10 V / 8 bit resolution
- Relay output "Amp OK"
- Motor brake control output 24 V / 1.5 A
- Encoder simulation from 64 to 16384 ppr

Control loops

- Digital drive for AC synchronous motors
- Current loop 62.5 μs
- Speed and position loop 500 μs
- Closed-loop position, speed or torque-control
- Cogging torque compensation
- Maximum speed up to 25´000 rpm

Feedbacks

- 16 bit resolver interface
- Incremental encoder interface
- Hall sensor interface
- Interface for SinCos encoders with absolute commutation track, Endat® or Hiperface®

Tools

- Setup assistant for motor and drive
- Motor library
- Auto-tuning function for control loops
- Auto-phasing function for motor adjustment
- Test functions such as direct motion commands and digital oscilloscope

Standards

- CE
- UL listed

Speed Servo CD1-a

- Speed or torque controller, slave axis with electronic gearing or positioner with stepper motor emulation
- ±10 V inputs for current or speed command and for external current limitation
- Programmable speed limitation and acceleration ramp
- Motor brake control via 24 V output
- Double feedback system (motor and load) via resolver and encoder
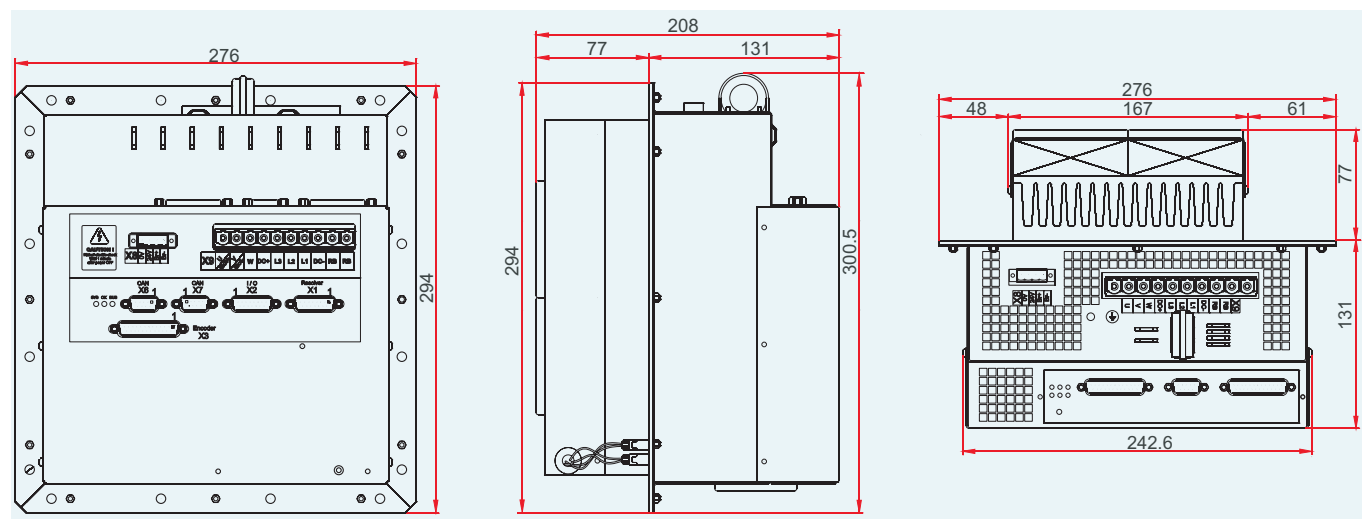- RS-232 addressing for multi drop applications

Positioner CD1-pm

- Up to 128 user defined sequences (Home, Position, Speed, Torque, gearing)
- Trapezoidal or S-curve profile generator
- Dedicated I/Os (Home-Index, Start, Stop, Pos, Speed and Sequence)
- User definable I/Os
- Motor brake control via 24 V output
- Slave axis with electronic gearing
- Double feedback system (motor and load) via resolver and encoder
- Choice of stand-alone operation and control via PROFIBUS DP® or RS-232
- PROFIBUS DP® with PPO1 .. PPO4 messages, SYNC and FREEZE functions

CANopen drive CD1-k

- Various operation modes (Homing, Interpolated Position, Position Profile, Velocity Profile, Torque Profile, Gearing)
- Trapezoidal or S-curve profile generator
- Dedicated I/Os (Home-Index, Inhibit, Limit switches, Capture, Low Speed)
- User definable I/Os
- Motor brake control via 24 V output
- Slave axis with electronic gearing
- Double feedback system (motor and load) via resolver and encoder
- Capture function
- Digital cam function
- CANopen interface according to DS-301
- CANopen Drive Profile according to DS-402

Mechanical dimensions

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The Infranor Group

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

The Infranor Brand is a synonym for:
– Excellence
– Cooperation
– Added value