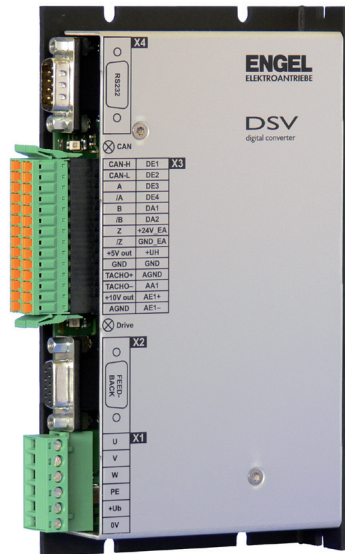


DSV 11x

Digital Servo Controller for Three-phase Synchronous Motors for permanent magnet DC-Motors

4-quadrant operation, fully digital closed loop control, point-to-point positioning capability, upto 475W output power



Description:

The Digital Servo Controllers DSV11x are perfectly suited for operation with ENGEL Three-phase Synchronous Motors as well as for brush-type permanent magnet DC-Motors.

Designed for low voltage operation, these fully digital devices feature a high-performance digital signal processor (DSP) providing high drive dynamics and accuracy due to short cycle times of the current, speed and position control loops.

The integrated CAN interface supports the CANopen® Device Profile for drives, CiA® DSP 402.

Alternatively, the DSV11x can be operated through a number of digital / analogue inputs and outputs. In this case, setpoints for speed or current (i.e. torque) may be applied by means of an analog control voltage or simply by applying one of two programmable fixed values. Additionally, the integrated positioning capability offers point-to-point positioning for 2 different target positions stored in the device, which can be selected via digital input.

When operated with DC motors, a tachometer sensor or an incremental encoder or BEMF measurement with IxR compensation are the choices for speed feedback. With Three-phase Synchronous Motors, a resolver or analog hall sensor LS1 is used for commutation and speed feedback.

In positioning mode, the resolver / LS1 signals or incremental signals are also used for position sensing. Homing mode can be chosen from various available options.

The DSV11x servo controller comes with the clear and easy-to-use configuration software DSeRV, which allows users to set up and monitor the device's parameters. The DSeRV tool runs on PCs under MS Windows operating systems, using the PC's serial interface (RS232) for communication with the servo controller.

All DSV11x models can handle a wide input voltage range of 20...60VDC. No additional auxiliary supply is required.

Due to its integrated filter components and a housing design taking EMC criteria into account, the device complies with the EMC regulations according to DIN EN 61800-3, with no need for additional external components (max. motor cable length: 10m).

The digital servo controllers of the DSV series are designed for wall mounting and can be spaced compactly for multi-axis applications.

Both power supply and motor cables are connected using Phoenix- Combicon plugs with screw connection (5.08mm). Signal lines are connected using Combicon push-in plugs (3.5mm) and D-SUB plugs.

type	suited for ENGEL Motors	Rated Input Voltage	Rated Current	Output Values Peak Current (max. 5 sec)	Rated Power *) (@48 VDC)
DSV 110	BSR 26, HLR 26, BSM 12 ... BSM 22, HLM 12 ... HLM 22, GNM 26 ... GNM 54	20 ... 60 VDC	5,0 A _{pk}	12,5 A _{pk}	165 W
DSV 112		20 ... 60 VDC	15 A _{pk}	37,5 A _{pk}	475 W

*) Values valid for use with Three-phase Synchronous Motors, values different when DC motors are used.

Features:

- For operation with DC and BL Motors
- CANopen®
- Short circuit proof power stage
- Status and error indicator
- Compact dimensions approx. 180 x 30 x 100 mm³ (H x W x D without mounting straps)
- Protection class IP20

Options:

- DeviceNet
- Customized functions

Typical applications:

Positioning tasks or speed control for material handling, metering units, electric pumps, stirring units etc.

In- and outputs:

- 4 Digital inputs 24V/7,5kOhm
 - 2 Digital outputs 24V/0,05A

 - 1 Analogue input $\pm 10V$ 10Bit
 - 1 Analogue output 0 ... 10V 10Bit
 - Incremental encoder input A, B, Z
 - Incremental encoder supply

 - Status LEDs

 - Resolver / Tachometer / Hall sensor
 - Auxiliary voltage regulator 24V, 50mA
 - Auxiliary voltage regulator 10V, 5mA
 - Serial interface RS232
 - CAN Interface
- Control Enable, Limit Switches, Target Position Select etc.
 - Speed/Current threshold, Target Reached signal etc. (Digital inputs and outputs are optically isolated)

 - Differential input for analogue setpoint setting (speed/current)
 - Monitor function: Current, Speed, Rotor angle (configurable)
 - Speed / Position signals: RS422, 5VTTL (configurable)
 - 5V/200mA

 - Indication of Enable / Device / Bus status and Error codes

 - Resolver: $f_k = 10kHz$, $K = 0,5$ / Tachometer: Max. $\pm 35V$ / Hall: sin,cos (1Vpk-pk)
 - For stimulation of digital inputs
 - unipolar, stabilized supply for setpoint potentiometer
 - Communication with DSerV software (PC / Laptop)
 - Fieldbus integration: CANopen® and DeviceNet (optional)

DSerV parametrizing software:

The DSerV software is a simple and easy-to-use tool, enabling users to set up the DSV servo controllers quickly.

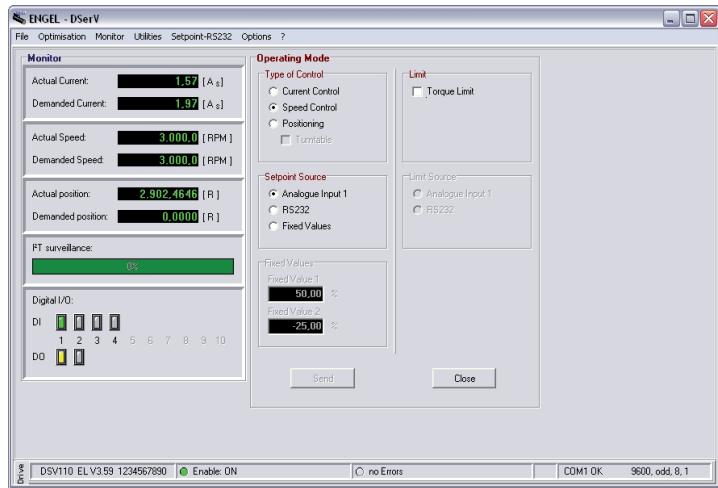
The menu-driven user interface allows to adjust scaling values, current limits, modes of operation and more.

Drive settings can be stored in a parameter file on the computer's hard disk.

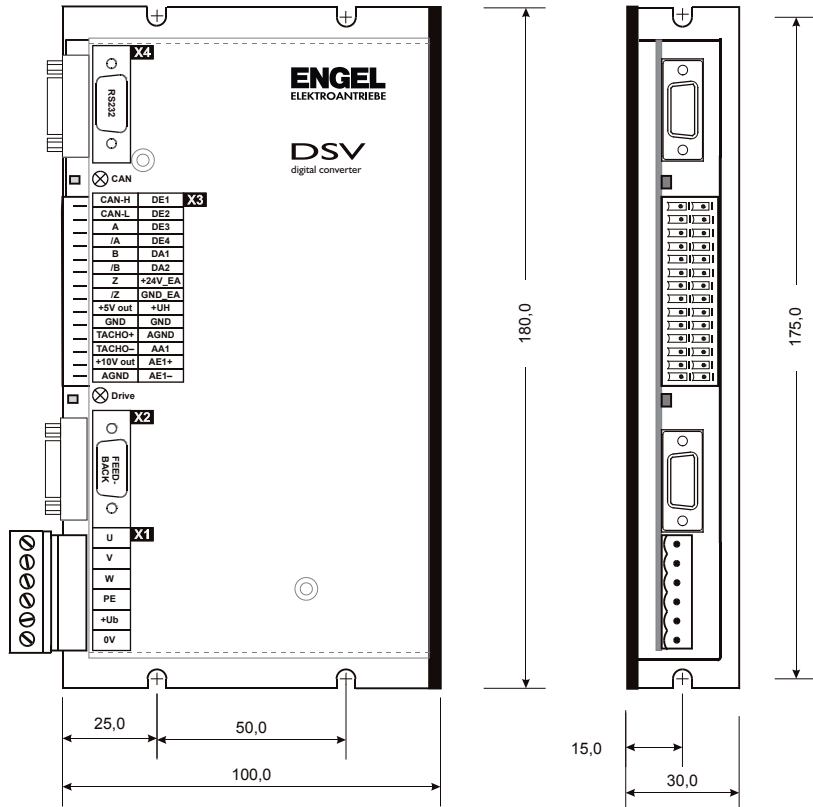
Operational status information such as speed values, current values, enable status etc. are available at a glance.

Selectable language options include English, French and German.

The DSerV software is executable under MS-Windows. The PC's RS232 serial interface (COMx) is used for communication with the servo controller.



Dimensional Drawing:



Accessoires (optional):

- Connecting cable motor, assembled Length: 2m / 5m *)
- Connecting cable resolver, assembled Length: 2m / 5m *)
- Connector set with all mating connectors for DSV.

*) other length on demand