EC-PWM-A*-MPC1-DT-CAN SMART PWM DRIVER

DESCRIPTION

Microprocessor-based PWM electronic driver for the control of a single or double-acting proportional function by means of CANbus or analogue voltage signal. Any complex logic function is available thanks to the integrated microcontroller.

OPERATION

The EC-PWM-A*-MPC1-DT-CAN drives one or two solenoids with a PWM (Pulse Width Modulated) current proportional to the input signal provided by a CANbus ECU or a joystick.
The EC-PWM-A*-MPC1-DT-CAN is suitable for a variety of functions, from the classic PWM proportional driver (mono or bidirectional function) to customized and complex functions (e.g. clutch engagement cycle).

FEATURES

- Robust thermoplastic enclosure, fully potted against harsh environmental conditions
- Microprocessor architecture with high diagnostics capability
- Protection against disturbances on power supply: overvoltages, reversed polarity and load dump
- Protection of inputs against short circuits to GND and power supply
- Protection of outputs against short circuits, overcurrent and overtemperature
- CANbus connection: ISO 11898-2
- CANbus communication protocol: SAE J1939 (standard), CANopen (on specific request)
- Driver's parameters adjustable through CANbus (min/max current, ramps, dither)
- Driver's firmware can be updated through CANbus using Tecnord's CANprogrammer tool
- Electro Magnetic Compatibility (EMC): EN 13309 (construction) - EN 14982 (Ag & forest) - EN 13766 (earth moving)

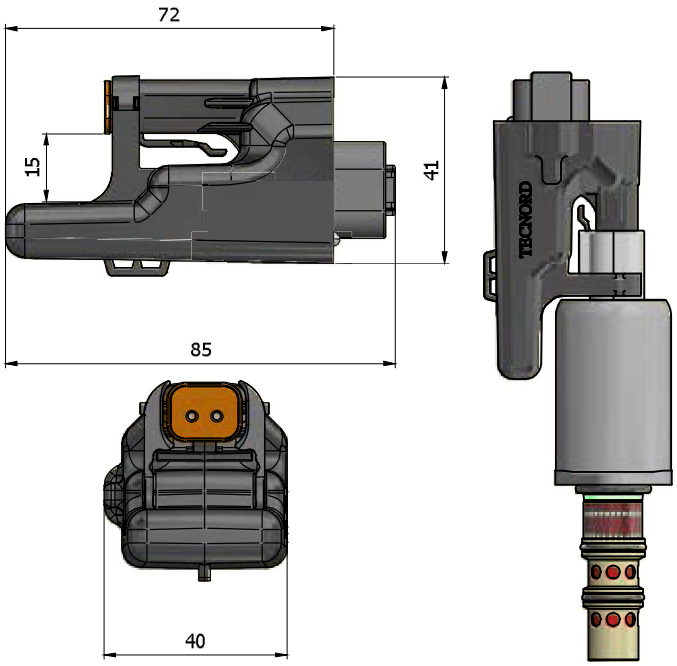
SPECIFICATIONS

Operating Voltage:	8 ÷ 30 Vdc
Max. current consumption:	< 50 mA (without load)
Operating Temperature:	-40 ÷ 85°C
Degree of protection:	IP69K
Analogue voltage control (A2 version):	0.5 - 2.5 - 4.5 Vdc
Analogue voltage control (A1 version):	0.5 - 4.5 Vdc
Available options (A1 version):	0 ÷ 10V, 0 ÷ 20 mA
Current output range:	0 ÷ 1600 mA
Adjustable parameters:	min. current, Max. current ramps, dither
CANbus lines:	1
CANbus interface:	ISO 11898
CANbus protocol:	SAE J1939 (default) CANopen
CANbus speed selectable:	125 - 250 (default) - 500 kbit/s

APPLICATIONS

- 12/24 Vdc proportional valve driver
- Control of single proportional valve (A1)
- Control of dual proportional valve (A2)
- Possibility of customized working cycle (e.g. clutch engagement cycle)

DIMENSIONS



Delta Power Company
4484 Boeing Drive Rockford, IL 61109 • USA • Phone +1 (815) 397-6628 • Fax +1 (815) 397-2526
mail: delta@delta-power.com • **www.delta-power.com**

TECNORD •
Via Malavolti, 36 • 41122 Modena • ITALY • Phone +39 (059) 254895 • Fax +39 (059) 253512
mail: tecnord@tecnord.com • **www.tecnord.com**

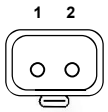
W 27 / 2021

EC-PWM-A*-MPC1-DT-CAN SMART PWM DRIVER

CONNECTOR PINOUT - A1 (SINGLE COIL) VERSION

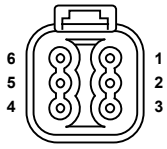
Mating connectors:

Deutsch DT04-2P (solenoid)



1 EV-A
2 FB (feedback)

Deutsch DT06-6S (harness)

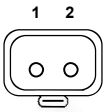


1 +V (power)
2 CAN-H
3 ANALOG IN
4 do not connect
5 CAN-L
6 GND

CONNECTOR PINOUT - A2 (DUAL COIL) VERSION

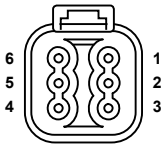
Mating connectors:

Deutsch DT04-2P (solenoid)



1 EV-A
2 FB (feedback)

Deutsch DT06-6S (harness)



1 +V (power)
2 CAN-H/ANALOG IN
3 EV-B (solenoid)
4 FB (feedback)
5 CAN-L
6 GND

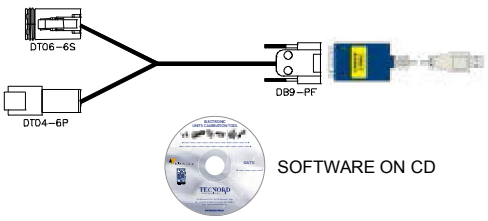
ADJUSTMENTS

Adjustments can be effected via CANbus line to modify the following work parameters:

- Imin (minimum output current)
- Imax (maximum output current)
- Ramp-up time
- Ramp-down time
- Dither frequency
- non-linear characteristics
- CANbus communication parameters
- type of control signal (Can or analogue voltage)

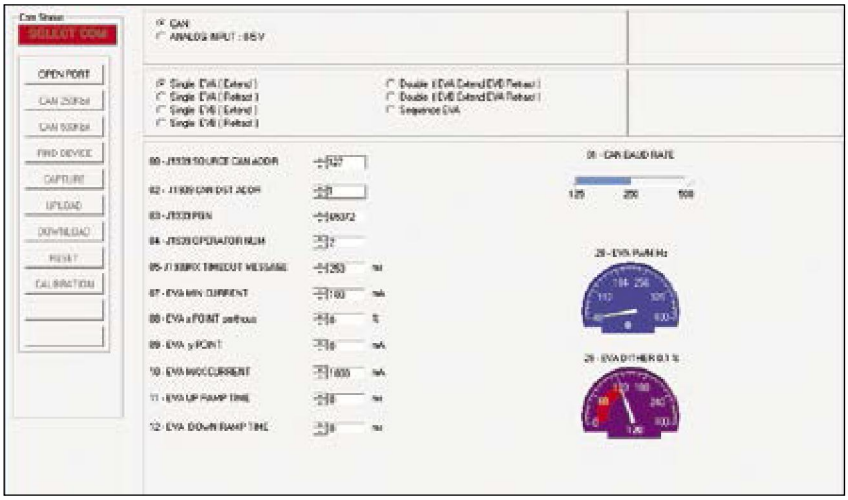
Calibration tool ordering code: 21.0801.075

CAN-USB converter ordering code: 21.0801.040



SOFTWARE ON CD

SW CONFIGURATION / ADJUSTMENT TOOL EXAMPLE



ORDERING INFORMATION

EC-PWM-A*-MPC1-DT-CAN

A1 = single proportional function
A2 = dual proportional function

W 27 / 2021

Delta Power Company
4484 Boeing Drive Rockford, IL 61109 • USA • Phone +1 (815) 397-6628 • Fax +1 (815) 397-2526
mail: delta@delta-power.com • **www.delta-power.com**

TECNORD •
Via Malavolti, 36 • 41122 Modena • ITALY • Phone +39 (059) 254895 • Fax +39 (059) 253512
mail: tecnord@tecnord.com • **www.tecnord.com**