



CANgine

COP

Product Brief

CANgine COP is a smart CAN to RS232 converter for use in CAN or CANopen environments. CANgine COP is a member of the well known CANgine family of serial to CAN converter devices and chips. With CANgine COP you can connect any peripheral device with RS232 interface to any controlling device via a CAN or CANopen network. The controlling device may either be a CAN or CANopen device or another serial device equipped with an additional CANgine COP. In the first case the CAN or CANopen device must support the easy to implement byte stream protocol described in CANgine COP's user manual. In the second case the serial data stream is "tunneled" and the two serial devices do not see the CAN or CANopen connection. This application is of interest if wiring with RS232 cable is not possible but CAN wiring is available.

CANgine COP is widely configurable and works either as a CAN basic layer based device (CAN mode) or as a CANopen based device (COP mode). CAN identifiers, CANopen node identifier, CAN and UART

baud rates and other parameters are configurable.

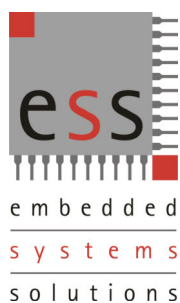
For tunneling you only have to configure two CANgine COP devices with the appropriate CAN identifier and your connection works either in CAN or in CANopen based networks.

Other possible applications are distributed serial driven peripheral devices which are controlled by a CAN or CANopen based master device.

The off the shelf CANgine COP module is a small (only 53 x 34 x 16 mm³) device which is powered by two pins of the 9 pin D-Sub CAN connector. If you have any special requirements ESS is able to create a customized solution as hardware and firmware of all CANgine variants is developed at ESS. The CANgine family was created in late 2002.

Visit www.CANgine.com for other devices and more information.

Technical Data of CANgine COP	
Internal Microcontroller	40 MHz internal clock with full CAN 2.0B interface
CANopen device profile	DSP 301 V4.01
CAN transceiver	ISO 11898-2 (high speed) compliant
CAN baud rates	10 kBit/s up to 1 Mbit/s according to CiA recommendations
RS232 baud rates	2.400 to 115.200 baud
CAN (FMS) connector	D-Sub 9 male
RS232 connector	D-Sub 9 female
Display	LED RUN (green) and LED ERR (red)
Power supply	7 ..30 VDC
Supply current	~ 35 mA (12 V)
Operating temperature	-40 .. 80 °C
Size	53 x 34 x 16 mm ³ / 2.08 x 1.34 x 0.63 inch ³
Weight	22 g



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Configuration Commands

?[CR]	show parameters
An[CR]	switch autostart feature for CANopen mode off or on
Hn[CR]	set heartbeat time for CANopen mode
ITn[CR]	set the identifier used for transmit messages
IRn[CR]	set the identifier used for receive messages
Mn[CR]	set operating mode to CAN or CANopen
Nn[CR]	set node number in CANopen mode
Pn[CR]	set CAN protocol standard to 11 Bit ID or 29 Bit ID in CAN mode
R[CR]	start operating mode when configuration done
Sn[CR]	set CAN baud rate
Tn[CR]	set the timeout value for sending UART receive buffer
Un[CR]	set the RS232 baud rate
V[CR]	show firmware version information

CANopen features

- 1 server SDO expedited and non-expedited
- 1 TPDO, static mapping
- 1 RPDO, static mapping
- Heartbeat producer
- NMT slave

Ask ESS for the chip version of CANgine COP

As with CANgine FMS you can embed CANgine COP into your hardware and make your devices CANopen compliant in a few days.

ESS Embedded Systems Solutions
Industriestr. 15
D-76829 Landau
Phone: (49) 6341/3487-0
Fax : (49) 6341/3487-29
www.ESSolutions.de

For more information about the whole CANgine product family or downloading the manual of CANgine COP visit

www.CANgine.com