TECHNION

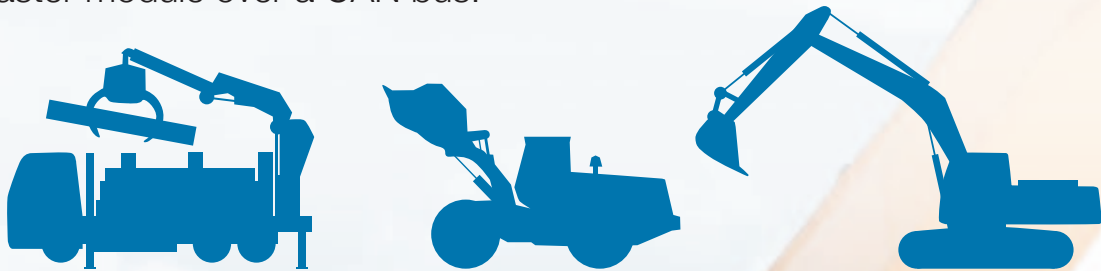## TEC122 and TEC132

Smart extensions for inputs and outputs

*Developed and
Manufactured
in Finland*

TEC122

TEC122—an extension module for interfacing with sensors and joysticks

TEC122 is a cost-effective extension module for interfacing with different kinds of sensors, joysticks and buttons. Thanks to its fully independent and redundant reference voltage outputs, you will be able to gain the highest reliability for your joystick-controlled machine movements. All the I/O pins and communication ports are protected against short circuits and electrical disturbances in vehicular environments.

TEC122 is at its best when it is used as a slave controller in a distributed system. Cabling costs can be optimized and it is easy to implement communication with the master module over a CAN bus.

Find the best match for your application

TEC122 I/O Table

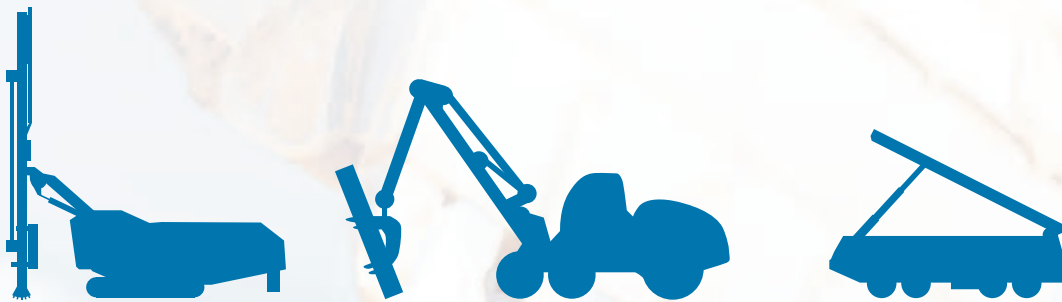|					MY NEED
OUTPUTS (4)	HIGH SIDE OUTPUTS [1]	4		*MAX 3.5A PWM OUTPUT [2*	
INPUTS (24)	GENERAL PURPOSE INPUTS	6	SW CONF	*PNP DIGITAL INPUT*	
				10-BIT ANALOG INPUT 0...27V	
				10-BIT ANALOG INPUT 0...10V	
	PRECISION INPUTS	8	SW CONF	*12-BIT ANALOG INPUT 0...5V*	
				12-BIT ANALOG INPUT 0...10V	
				PNP DIGITAL INPUT	
	DIGITAL INPUTS	10		*PNP DIGITAL INPUT*	
SUPPLY SOURCES (2)	REFERENCE OUTPUTS	2	SW CONF	*5V @ 50mA (0.5%)*	
				10V @ 50mA (0.5%)	
FIELD BUS PORTS (3)	RS-232 [3	1			
	CAN	2		*ISO 11898-2*	

1) Optionally PWM outputs can be changed to be input ports. Contact your local Technion sales office if there is a need to increase the amount of input ports in your project.
2) External freewheeling diode required.
3) In CODESYS based order options RS232-bus is reserved for development purpose.
NOTE: Check all order options from the last page of the brochure.

TEC132

TEC132—a simple and smart mini-controller

TEC132 is a perfect choice for the main controller of a simple control system. It can also be used as an output-oriented extension module in distributed control systems. Although **TEC132** is a compact and economical solution, it has a total of 34 programmable I/O ports that are all protected against incorrect connections and electrical disturbances in vehicular environments. **TEC132** supports CODESYS v2.3 development tools. It's a small package full of features.

Find the best match for your application

TEC132 I/O Table

MY NEED

OUTPUTS (20)	CONTROL OUTPUTS (1	20	SW CONF		*MAX 3.5A HIGH SIDE PWM OUTPUT (2*	
				2	*MAX 1A LOW SIDE DIGITAL OUTPUT*	
INPUTS (8)	PRECISION INPUTS	8	SW CONF		*12-BIT ANALOG INPUT 0...5V*	
					12-BIT ANALOG INPUT 0...10V	
					PNP DIGITAL INPUT	
SUPPLY SOURCES (3)	REFERENCE OUTPUTS	2	SW CONF		*5V @ 50mA (0.5%)*	
					10V @ 50mA (0.5%)	
	ANALOG OUTPUT	1			*10-BIT ANALOG OUTPUT 0...10V @ 10mA*	
FIELD BUS PORTS (4)	RS-232 (3	1				
	RS-485 (4	1			*MODBUS RTU MASTER / SLAVE*	
	CAN	2			*ISO 11898-2*	
WIRELESS (1)	2.4GHz RADIO (5	1			*EXTERNAL ANTENNA*	

1) Optionally control outputs can be configured to be input ports, see TEC132 Technical Manual for details.
2) External freewheeling diode required.
3) In CODESYS based products reserved for CODESYS development port.
4) There is a separate order code for the RS-485 model.
5) There is a separate order code for the Radio Option.
NOTE: Check all order options from the last page of the brochure.

Product Specification

CPU	32-bit architecture, 65DMIPS processing capacity
Memory	Flash 512kB, for CODESYS application 224kB
	Data EEPROM 64kB, for CODESYS application 63kB
	RAM 96kB, for CODESYS application 16kB
Supply voltage range	9V – 32V (overvoltage rating: 36V operational)
Supply current, logic	0.15A
Supply current, outputs	20A (maximum)
Housing	Glass Fiber Reinforced PA, electroplated steel
	152mm x 152mm x 59mm (W x L x H)
Protection	IP67
Temperature range, operating	-40°C … +75°C
Temperature range, storage	-40°C … +85°C
Connectors	TYCO AMPSEAL 35 positions (1pcs),
	TYCO AMPSEAL 14 positions (1pcs),
	M12A-coded (1pcs) in RS485 option
CAN x 2pcs	ISO 11898-2
Serial	RS-232, RS-485
Electrical requirements	ISO 16750-2
Mechanical requirements	ISO 16750-3
Climate requirements	ISO 16750-4
Automotive EMC directive	UNECE regulation No.10
Construction machinery - EMC	EN 13309:2010
Agricultural and forestry machinery - EMC	EN ISO 14982:2009
Earth-moving machinery - EMC	ISO 13766:2006
Application development environment	CODESYS V2.3

CE

CODESYS

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Order Options

TEC122-001	C-library BSP, no additional options		TEC132-001	C-library BSP, no additional options
TEC122-002	CODESYS, no additional options		TEC132-002	CODESYS and RS-485 option
TEC122-003	CANopen CiA 401 PROFILE SW		TEC132-003	C-library BSP and RS-485 option
			TEC132-004	CODESYS, no additional options
			TEC132-005	C-library BSP and 2,4GHz Radio option
			TEC132-006	CANopen CiA 401 PROFILE SW

Technion Partner