

The SPN4 is an ECU (Electronic Control Unit) which can handle up to 8 inputs and up to 12 outputs.

It can be implemented in a serial line (RS232) or in a CAN network, as MASTER or SLAVE.

The polyurethane resin case makes the controllers suitable for use on machines that operate in harsh work environments.



## TECHNICAL FEATURES

MASTER CODE		SPN4
POWER SUPPLY		9-36 VDC / CURRENT CONSUMPTION 25 mA AT 24 VDC (STAND BY MODE)
INPUT	TOTAL 8	4 UNIVERSAL INPUT 4 DIGITAL INPUTS
OUTPUT	TOTAL 12	8 PWM/DIGITAL OUTPUTS OR 4 PWM/DIGITAL OUTPUTS & 4 RELAY WITH DRY CONTACT OUTPUTS 4 DIGITAL LOW SIDE OUTPUTS
CAN BUS	1 PORT	2.0B COMPLIANT - (11, 29 BIT) - ISO 11898 - UP TO 1MBIT/S
CAN BUS PROTOCOLS		CAN OPEN (CIA DS401 DEVICE PROFILE FOR GENERIC I/O MODULE, WITH DS306 EDS FILE) ON REQUEST: SAE J1939 - ISO 11783 (ISO BUS) - FMS
SERIAL PORT	1 PORT	RS232
CONNECTIONS PORT	2	NR.1 MOLEX 32 PIN NR.1 MOLEX 48 PIN
WORKING TEMPERATURE		-40°C +80°C
CASE		ENCAPSULATED IN PUR RESIN - SELF-EXTINGUISHING UL94 (V0)





## ELECTRONIC FEATURES

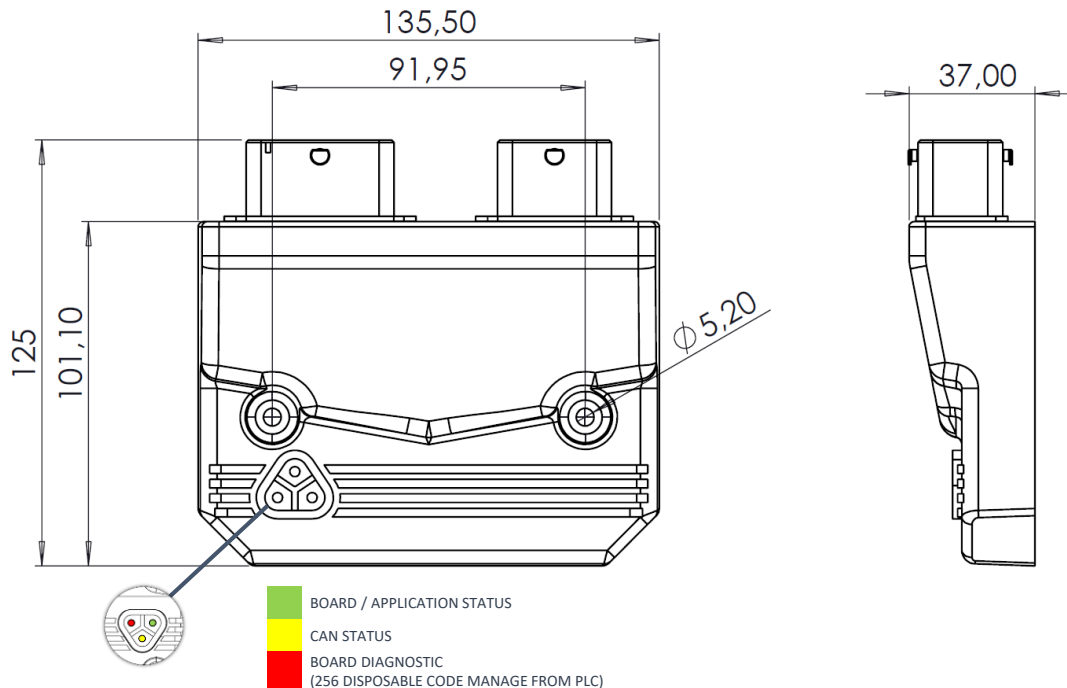
SLAVE USAGE	EDS FILE
MASTER USAGE	STANDARD C PROGRAM LANGUAGE
PROGRAMMING	FIRMWARE UPLOAD BY CAN BUS WITH ALOADER SOFTWARE TOOL
CYCLE TIME	10 ms

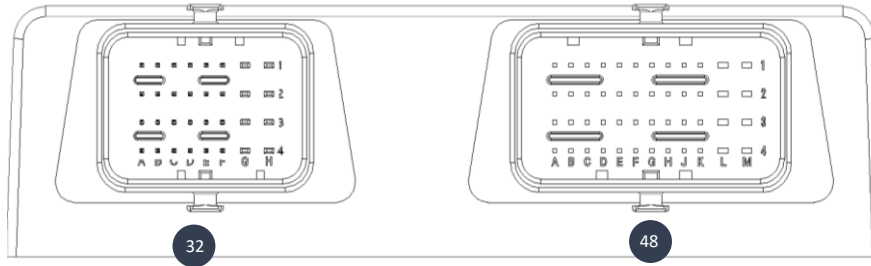
## STANDARDS

ELECTROMAGNETIC EMISSIONS	EN 61000-6-4// EN 55011 (RF RADIATE)
ELECTROMAGNETIC IMMUNITY	EN 61000-6-2// EN 61000-4-2/3/4/6
IP	BOX: IP68; CONNECTORS: IP67
MTTFd	55,98 YEARS CALCULATED ACCORDING TO THE IEC61709 (SIEMENS SN29500), WITH ENVIRONMENTAL FACTORS 3K7 (IEC60721)
PERFORMANCE AND SAFETY INTEGRITY LEVEL	PLc – SIL1 (SINGLE-CHANNEL INTERNAL SCHEME)

IN ACCORDANCE WITH THE EN50498 THE DEVICE MEETS THE TECHNICAL SPECIFIC REQUIREMENTS OF 2004-104 DIRECTIVE (AUTOMOTIVE). THE DEVICE IS EMC 2004/108 COMPLIANT.

## SIZE (mm)





SPN4.B

SPN4.A

#### 32 PINS CONNECTOR

PIN	A	B	C	D	E	F	G	H
1	DIGITAL/PWM OUTPUT 1	GND	GND	DIGITAL/PWM OUTPUT 2	DIGITAL NEGATIVE OUTPUT 9	DIGITAL NEGATIVE OUTPUT 10	POSITIVE POWER SUPPLY	SUPPLY OUTPUTS 1/2/3/4
	DIGITAL/PWM OUTPUT 1	GND	GND	DIGITAL/PWM OUTPUT 2	DIGITAL NEGATIVE OUTPUT 9	DIGITAL NEGATIVE OUTPUT 10	POSITIVE POWER SUPPLY	SUPPLY OUTPUTS 1/2/3/4
2	SENSOR POSITIVE POWER SUPPLY	SENSOR POSITIVE POWER SUPPLY	SENSOR POSITIVE POWER SUPPLY	SENSOR POSITIVE POWER SUPPLY	POSITIVE POWER SUPPLY FOR NEGATIVE OUTPUT	POSITIVE POWER SUPPLY FOR NEGATIVE OUTPUT	GND POWER SUPPLY	GND
	POSITIVE SENSOR POWER SUPPLY	SENSOR POSITIVE POWER SUPPLY	SENSOR POSITIVE POWER SUPPLY	SENSOR POSITIVE POWER SUPPLY	POSITIVE POWER SUPPLY FOR NEGATIVE OUTPUT	POSITIVE POWER SUPPLY FOR NEGATIVE OUTPUT	GND POWER SUPPLY	GND
3	DIGITAL INPUT 8	DIGITAL INPUT 7	DIGITAL INPUT 6	DIGITAL INPUT 5	CANL	DRY CONTACT RELAY 3	GND	DIGITAL/PWM OUTPUT 3
	DIGITAL INPUT 8	DIGITAL INPUT 7	DIGITAL INPUT 6	DIGITAL INPUT 5	CANL		GND	DRY CONTACT RELAY 3
4	GND	GND	GND	GND	CANH	DRY CONTACT RELAY 4	GND	DIGITAL/PWM OUTPUT 4
	GND	GND	GND	GND	CANH		GND	DRY CONTACT RELAY 4

#### 48 PINS CONNECTOR

PIN	A	B	C	D	E	F	G	H	J	K	L	M
1	DIGITAL/PWM OUTPUT 5	DRY CONTACT RELAY 6	DIGITAL/PWM OUTPUT 6	DIGITAL NEGATIVE OUTPUT 11	POSITIVE POWER SUPPLY FOR NEGATIVE OUTPUT	DIGITAL NEGATIVE OUTPUT 12	SENSOR POSITIVE POWER SUPPLY	SENSOR POSITIVE POWER SUPPLY	SENSOR POSITIVE POWER SUPPLY	SENSOR POSITIVE POWER SUPPLY	POSITIVE POWER SUPPLY	SUPPLY OUTPUTS 5/6/7/8
	DRY CONTACT RELAY 5		DRY CONTACT RELAY 6	DIGITAL NEGATIVE OUTPUT 11	POSITIVE POWER SUPPLY FOR NEGATIVE OUTPUT	DIGITAL NEGATIVE OUTPUT 12	SENSOR POSITIVE POWER SUPPLY	SENSOR POSITIVE POWER SUPPLY	SENSOR POSITIVE POWER SUPPLY	SENSOR POSITIVE POWER SUPPLY	POSITIVE POWER SUPPLY	SUPPLY OUTPUTS 5/6/7/8
2	DRY CONTACT RELAY 5	GND	GND	NOT USED	POSITIVE POWER SUPPLY FOR NEGATIVE OUTPUT	NOT USED	ANALOGIC INPUT 4	ANALOGIC INPUT 3	ANALOGIC INPUT 2	ANALOGIC INPUT 1	GND POWER SUPPLY	GND
		GND	GND	NOT USED	POSITIVE POWER SUPPLY FOR NEGATIVE OUTPUT	NOT USED	ANALOGIC INPUT 4	ANALOGIC INPUT 3	ANALOGIC INPUT 2	ANALOGIC INPUT 1	GND POWER SUPPLY	GND
3	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	DIGITAL/PWM OUTPUT 7
	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	GND	DIGITAL/PWM OUTPUT 7
4	NOT USED	NOT USED	NOT USED	NOT USED	CANH	CANL	RS232RX	RS232TX	CAN2L	CAN2H	GND	DIGITAL/PWM OUTPUT 8
	NOT USED	NOT USED	NOT USED	NOT USED	CANH	CANL	RS232RX	RS232TX	CAN2L	CAN2H	GND	DIGITAL/PWM OUTPUT 8

#### COUPLING CONNECTORS

	32 PIN	48 PIN
CONNECTOR	64319-3211	64320-3311
TERMINAL	64323-1029 (x8)	64323-1029 (x8)
	64322-1029 (x24)	64322-1029 (x40)
WIRE CAP	64319-1201	64320-1301





**ALMEC**  
MECHATRONICS

NOTE