ALMEC MECHATRONICS

SPN1	CONTROLLER

The SPN1 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 resources are disposed separately to facilitate the repairs of the utilities and the polyurethane resin case makes the controllers suitable for use on machines that operate in harsh work environments.

CE

TECHNICAL FEATURES

MASTER CODE		SPN1
POWER SUPPLY		9-36 VDC / CURRENT CONSUMPTION 25 mA AT 24 VDC (STAND BY MODE)
INPUT	**TOTAL 8**	4 UNIVERSAL INPUTS 4 DIGITAL INPUTS
OUTPUT	**TOTAL 12**	8 PWM / DIGITAL OUTPUTS OR 4 RATIOMETRIC OUTPUT 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**	OPTIONAL: RS232
CONNECTIONS PORT	**10**	1 AMP SUPERSEAL 6 PIN – STANDARD CABLE LENGTH: 40 cm 9 AMP SUPERSEAL 4 PIN - STANDARD CABLE LENGTH: 40 cm
WORKING TEMPERATURE		-40°C +80°C
CASE		ENCAPSULATED IN PUR RESIN - SELF-EXTINGUISHING UL94 (V0)

ELECTRONIC FEATURES

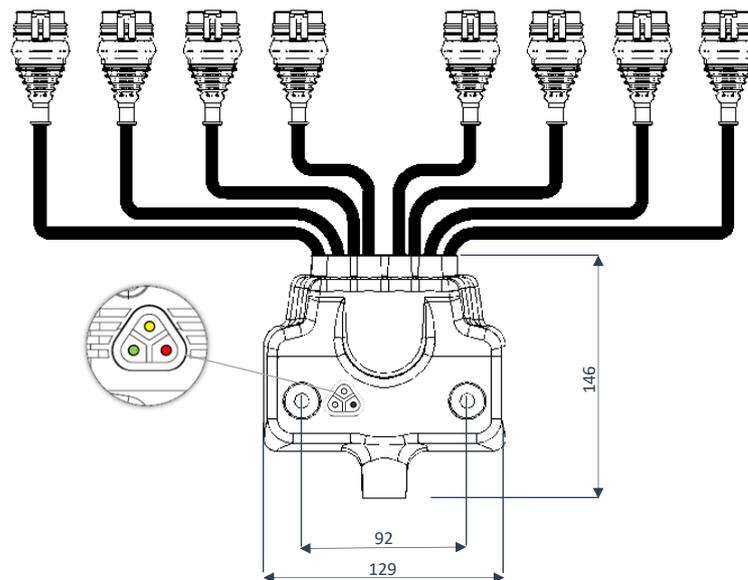|	
SLAVE USAGE	EDS
MASTER USAGE	STANDARD C PROGRAM LANGUAGE
PROGRAMMING	FIRMWARE UPLOAD BY CAN BUS WITH ALOADER SOFTWARE TOOL
CYCLE TIME	50 ms

Scan me

CiA member

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.
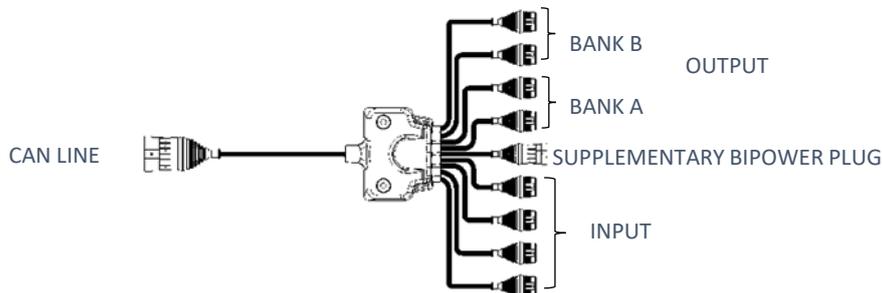
SIZE (mm)

BOARD / APPLICATION STATUS

CAN STATUS

BOARD DIAGNOSTIC (256 DISPOSABLE CODE MANAGE FROM PLC)

146

92

129

SPN1	CONTROLLER

BANK B
OUTPUT
BANK A
CAN LINE
SUPPLEMENTARY BIPOWER PLUG
INPUT

ELECTRICAL FEATURES

INPUT	OUTPUTS

	INPUT	OUTPUTS

8 HIGH SIDE OUTPUTS – IN TWO INDIPENDENT BANKS

|		PIN 5 (CAN LINE PLUG)				PIN 6 (CAN LINE PLUG)			
		BANK A				**BANK B**			
		DIGIT PWM	RATIO	RELAY	**OPT. 1**	DIGIT PWM	RATIO	RELAY	**OPT. 2**
BASIC VERSION	**4 UNIVERSAL INPUT** 4÷20 mA (0÷25 mA) 0÷5 V 0÷10 V 0÷40 V HIGH SIDE INPUT LOW SIDE INPUT **4 DIGITAL INPUTS** HIGH SIDE INPUT LOW SIDE INPUTS	4	0	0	**A**	4	0	0	**A**
		3	0	1	**B**	3	0	1	**B**
		2	1	0	**C**	2	1	0	**C**
		2	0	2	**D**	1	0	2	**D**
		1	1	1	**E**	0	1	1	**E**
		0	2	0	**F**	0	2	0	**F**
		0	1	2	**G**	0	1	2	**G**
		HIGH SIDE OUTPUTS							
		SINGLE OUT MAX CURR: 5A			BANK TOTAL CURRENT: 8A				

BASIC AND BIPOWER VERSION		**4 SUPPLEMENTARY – LOW SIDE OUTPUTS**

		SINGLE OUT MAX CURRENT: 4A				BANK TOTAL CURRENT: 8A			
BIPOWER VERSION	SUPPLEMENTARY BIPOWER PLUG	**IMPORTANT**: BIPOWER CONNECTION EXCLUDES THE SUPPLY (A/B BANKS) BY DOUBLE CAN LINE							
		OPT 3							
		BANK A BIPOWER	**1P**						
		BANK B BIPOWER	**2P**			**HIGH SIDE OUTPUTS**			
		BANK A AND B BIPOWER	**3P**			SINGLE OUT MAX CURR: 5A		BANK TOTAL CURRENT: 16A	

CAN LINE IN	
PIN	**DESCRIPTION**
1	POWER SUPPLY
2	LINE H (CANBUS)
3	GND
4	LINE L (CAN BUS)
5	SUPPLY OUTPUTS 1..8
6	SUPPLY OUTPUTS 9..16
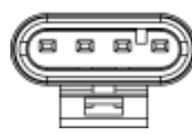
INPUT	
PIN	**DESCRIPTION**
1	POSITIVE
2	INPUT (D:L-H)
3	GND
4	INPUT (A/D:L-H)
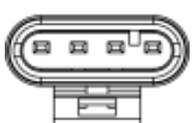
OUTPUT	
PIN	**DESCRIPTION**
1	OUTPUT (A/D:H)
2	OUTPUT (A/D:H)
3	GND
4	OUTPUT LOW SIDE
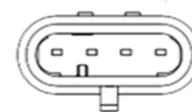
SUPPLEMENTARY BIPOWER PLUG	
PIN	**DESCRIPTION**
1	SUPPLY OUTPUTS 1..8
2	GND
3	SUPPLY OUTPUTS 9..16
4	GND