



The SPN6 controller is an ECU (Electronic Control Unit) which can handle up to 48 inputs and up to 40 outputs.

It can be implementable in RS232 line or 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		SPN6		
POWER SUPPLY		9-36 VDC / CURRENT ABSORPTION 50 mA AT 24 VDC (STAND BY MODE)		
INPUT	TOTAL 48	16 UNIVERSAL INPUT		
		32 DIGITAL INPUTS		
OUTPUT	TOTAL 40 OR 32	24 PWM / DIGITAL OUTPUTS AND 16 DIGITAL HIGHSIDE LOW CURRENT OUTPUTS	OR	24 PWM / DIGITAL OUTPUTS AND 8 RELAY DRY CONTACT OUTPUTS (MAX 24 VDC)
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		
CONNECTION	4	NR.2 MOLEX 32 PIN		
		NR.2 MOLEX 48 PIN		
CASE		PUR		
WORKING TEMPERATURE		-40°C + 80°C		



Scan me



ELECTRONIC FEATURES

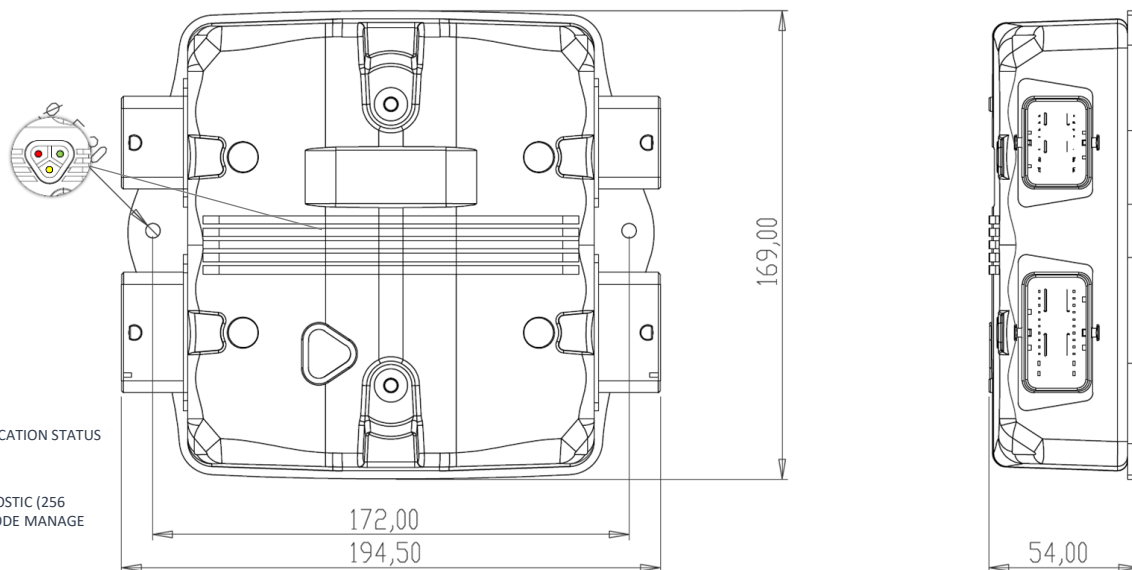
SLAVE USAGE	EDS FILE
MASTER USAGE	STANDARD C PROGRAM LANGUAGE
PROGRAMMING	FIRMWARE UPLOAD BY CAN BUS WITH ALOADER SOFTWARE TOOL
CYCLE TIME	10 ms
CPU	PIC 16 bit
INTERNAL MEMORY	FLASH: 256 KB RAM: 28 KB

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	111,93 YEARS CALCULATED ACCORDING TO THE IEC61709 (SIEMENS SN29500), WITH ENVIRONMENTAL FACTORS 3K7 (IEC60721)
PERFORMANCE AND SAFETY INTEGRITY LEVEL	PLd – SIL2 (DUAL-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)



SPN6.CN.S02

SPN6.CN.S01

I/O TABLE

CODE	INPUTS	OUTPUTS	
SPN6.CN.S02	16 UNIVERSAL INPUTS 4-20 mA (0 ÷ 25 mA) 0 ÷ 5 V 0 ÷ 10 V 0 ÷ 40 V HIGH SIDE INPUT LOW SIDE INPUT	UP TO 24 PWM UP TO 16 DIGITAL (HIGH SIDE)	HIGH SIDE PWM OUTPUT SINGLE OUT 4A MAX-MAX TOTAL 20A FOR CONNECTORS COUPLE A-B AND C-D
			DIGITAL HIGH SIDE OUTPUT SINGLE OUT 2A MAX – TOTAL DIGITAL 6° FOR CONNECTORS COUPLE A-B AND C-D
SPN6.CN.S01	32 DIGITAL INPUTS HIGH SIDE INPUT LOW SIDE INPUT	UP TO 24 PWM UP TO 8 RELAY	HIGH SIDE PWM OUTPUT SINGLE OUT 4A MAX-MAX TOTAL 20° FOR CONNECTORS COUPLE A-B OR C-D
			RELAY SINGLE CONTACT MAX 3A

32 PINS CONNECTOR A

PIN	A	B	C	D	E	F	G	H
1	DIGITAL / PWM OUTPUT 2	DIGITAL / PWM OUTPUT 3	SUPPLY OUTPUTS 3/4	DIGITAL / PWM OUTPUT 4	DIGITAL INPUT 9	GND	DIGITAL / PWM OUTPUT 5	SUPPLY OUTPUTS 5/6
	DIGITAL / PWM OUTPUT 2	DIGITAL / PWM OUTPUT 3	SUPPLY OUTPUTS 3/4	DIGITAL / PWM OUTPUT 4	DIGITAL INPUT 9	GND	DIGITAL / PWM OUTPUT 5	SUPPLY OUTPUTS 5/6
2	SUPPLY OUTPUTS 1/2	SENSOR POWER SUPPLY	SENSOR POWER SUPPLY	SENSOR POWER SUPPLY	GND	GND	GND	GND
	SUPPLY OUTPUTS 1/2	SENSOR POWER SUPPLY	SENSOR POWER SUPPLY	SENSOR POWER SUPPLY	GND	GND	GND	GND
3	DIGITAL / PWM OUTPUT 1	DIGITAL INPUT 5	DIGITAL INPUT 4	DIGITAL INPUT 3	DIGITAL INPUT 2	DIGITAL INPUT 1	GND	DIGITAL / PWM OUTPUT 6
	DIGITAL / PWM OUTPUT 1	DIGITAL INPUT 5	DIGITAL INPUT 4	DIGITAL INPUT 3	DIGITAL INPUT 2	DIGITAL INPUT 1	GND	DIGITAL / PWM OUTPUT 6
4	DIGITAL INPUT 6	DIGITAL INPUT 7	DIGITAL INPUT 8	DIGITAL HIGH SIDE OUTPUT 13A	DIGITAL HIGH SIDE OUTPUT 13	DIGITAL HIGH SIDE OUTPUT 14A	DIGITAL HIGH SIDE OUTPUT 14	SUPPLY OUTPUTS 13/13A/14/14A
	DIGITAL INPUT 6	DIGITAL INPUT 7	DIGITAL INPUT 8	FREE CONTACT OUTPUT 13	FREE CONTACT OUTPUT 13	NOT USED	FREE CONTACT OUTPUT 14	FREE CONTACT OUTPUT 14

48 PINS CONNECTOR B

PIN	A	B	C	D	E	F	G	H	J	K	L	M
1	DIGITAL HIGH SIDE OUTPUT 16A	SUPPLY OUTPUTS 15/15A/16/16A	SENSOR POWER SUPPLY	DIGITAL / PWM OUTPUT 7	SUPPLY OUTPUTS 7/8	DIGITAL / PWM OUTPUT 8	GND	DIGITAL / PWM OUTPUT 9	GND	SUPPLY OUTPUTS 9/10	GND	DIGITAL / PWM OUTPUT 10
	FREE CONTACT OUTPUT 16	FREE CONTACT OUTPUT 15	SENSOR POWER SUPPLY	DIGITAL / PWM OUTPUT 7	SUPPLY OUTPUTS 7/8	DIGITAL / PWM OUTPUT 8	GND	DIGITAL / PWM OUTPUT 9	GND	SUPPLY OUTPUTS 9/10	GND	DIGITAL / PWM OUTPUT 10
2	DIGITAL HIGH SIDE OUTPUT 16	SENSOR POWER SUPPLY	SENSOR POWER SUPPLY	SENSOR POWER SUPPLY	SENSOR POWER SUPPLY	GND	GND	GND	GND	GND	GND	DIGITAL / PWM OUTPUT 11
	FREE CONTACT OUTPUT 16	SENSOR POWER SUPPLY	SENSOR POWER SUPPLY	SENSOR POWER SUPPLY	SENSOR POWER SUPPLY	GND	GND	GND	GND	GND	GND	DIGITAL / PWM OUTPUT 11
3	DIGITAL HIGH SIDE OUTPUT 15	DIGITAL INPUT 10	DIGITAL INPUT 11	DIGITAL INPUT 12	DIGITAL INPUT 13	DIGITAL INPUT 14	DIGITAL INPUT 15	DIGITAL INPUT 16	CANH	CANL	GND	SUPPLY OUTPUTS 11/12
	NOT USED	DIGITAL INPUT 10	DIGITAL INPUT 11	DIGITAL INPUT 12	DIGITAL INPUT 13	DIGITAL INPUT 14	DIGITAL INPUT 15	DIGITAL INPUT 16	CANH	CANL	GND	SUPPLY OUTPUTS 11/12
4	DIGITAL HIGH SIDE OUTPUT 15A	ANALOG INPUT 1	LOGIC POWER SUPPLY	ANALOG INPUT 2	ANALOG INPUT 3	ANALOG INPUT 4	ANALOG INPUT 5	ANALOG INPUT 6	ANALOG INPUT 7	ANALOG INPUT 8	GND	DIGITAL / PWM OUTPUT 12
	FREE CONTACT OUTPUT 15	ANALOG INPUT 1	LOGIC POWER SUPPLY	ANALOG INPUT 2	ANALOG INPUT 3	ANALOG INPUT 4	ANALOG INPUT 5	ANALOG INPUT 6	ANALOG INPUT 7	ANALOG INPUT 8	GND	DIGITAL / PWM OUTPUT 12

32 PINS CONNECTOR C

PIN	A	B	C	D	E	F	G	H
1	DIGITAL / PWM OUTPUT 18	DIGITAL / PWM OUTPUT 19	SUPPLY OUTPUTS 19/20	DIGITAL / PWM OUTPUT 20	DIGITAL INPUT 25	GND	DIGITAL / PWM OUTPUT 21	SUPPLY OUTPUTS 21/22
	DIGITAL / PWM OUTPUT 18	DIGITAL / PWM OUTPUT 19	SUPPLY OUTPUTS 19/20	DIGITAL / PWM OUTPUT 20	DIGITAL INPUT 25	GND	DIGITAL / PWM OUTPUT 21	SUPPLY OUTPUTS 21/22
2	SUPPLY OUTPUTS 17/18	SENSOR POWER SUPPLY	SENSOR POWER SUPPLY	SENSOR POWER SUPPLY	GND	GND	GND	GND
	SUPPLY OUTPUTS 17/18	SENSOR POWER SUPPLY	SENSOR POWER SUPPLY	SENSOR POWER SUPPLY	GND	GND	GND	GND
3	DIGITAL / PWM OUTPUT 17	DIGITAL INPUT 21	DIGITAL INPUT 20	DIGITAL INPUT 19	DIGITAL INPUT 18	DIGITAL INPUT 17	GND	DIGITAL / PWM OUTPUT 22
	DIGITAL / PWM OUTPUT 17	DIGITAL INPUT 21	DIGITAL INPUT 20	DIGITAL INPUT 19	DIGITAL INPUT 18	DIGITAL INPUT 17	GND	DIGITAL / PWM OUTPUT 22
4	DIGITAL INPUT 22	DIGITAL INPUT 23	DIGITAL INPUT 24	DIGITAL HIGH SIDE OUTPUT 29A	DIGITAL HIGH SIDE OUTPUT 29	DIGITAL HIGH SIDE OUTPUT 30A	DIGITAL HIGH SIDE OUTPUT 30	SUPPLY OUTPUTS 29/29A/30/30A
	DIGITAL INPUT 22	DIGITAL INPUT 23	DIGITAL INPUT 24	FREE CONTACT OUTPUT 29	FREE CONTACT OUTPUT 29	NOT USED	FREE CONTACT OUTPUT 30	FREE CONTACT OUTPUT 30

48 PINS CONNECTOR D

PIN	A	B	C	D	E	F	G	H	J	K	L	M
1	DIGITAL HIGH SIDE OUTPUT 32A	SUPPLY OUTPUTS 31/31A/32/32A	SENSOR POWER SUPPLY	DIGITAL / PWM OUTPUT 23	SUPPLY OUTPUTS 23/24	DIGITAL / PWM OUTPUT 24	GND	DIGITAL / PWM OUTPUT 25	GND	SUPPLY OUTPUTS 25/26	GND	DIGITAL / PWM OUTPUT 26
	FREE CONTACT OUTPUT 32	FREE CONTACT OUTPUT 31	SENSOR POWER SUPPLY	DIGITAL / PWM OUTPUT 23	SUPPLY OUTPUTS 23/24	DIGITAL / PWM OUTPUT 24	GND	DIGITAL / PWM OUTPUT 25	GND	SUPPLY OUTPUTS 25/26	GND	DIGITAL / PWM OUTPUT 26
2	DIGITAL HIGH SIDE OUTPUT 32	SENSOR POWER SUPPLY	SENSOR POWER SUPPLY	SENSOR POWER SUPPLY	SENSOR POWER SUPPLY	GND	GND	GND	GND	GND	GND	DIGITAL / PWM OUTPUT 27
	FREE CONTACT OUTPUT 32	SENSOR POWER SUPPLY	SENSOR POWER SUPPLY	SENSOR POWER SUPPLY	SENSOR POWER SUPPLY	GND	GND	GND	GND	GND	GND	DIGITAL / PWM OUTPUT 27
3	DIGITAL HIGH SIDE OUTPUT 31	DIGITAL INPUT 26	DIGITAL INPUT 27	DIGITAL INPUT 28	DIGITAL INPUT 29	DIGITAL INPUT 30	DIGITAL INPUT 31	DIGITAL INPUT 32	CANH	CANL	GND	SUPPLY OUTPUTS 27/28
	NOT USED	DIGITAL INPUT 26	DIGITAL INPUT 27	DIGITAL INPUT 28	DIGITAL INPUT 29	DIGITAL INPUT 30	DIGITAL INPUT 31	DIGITAL INPUT 32	CANH	CANL	GND	SUPPLY OUTPUTS 27/28
4	DIGITAL HIGH SIDE OUTPUT 31A	ANALOG INPUT 9	LOGIC POWER SUPPLY	ANALOG INPUT 10	ANALOG INPUT 11	ANALOG INPUT 12	ANALOG INPUT 13	ANALOG INPUT 14	ANALOG INPUT 15	ANALOG INPUT 16	GND	DIGITAL / PWM OUTPUT 28
	FREE CONTACT OUTPUT 31	ANALOG INPUT 9	LOGIC POWER SUPPLY	ANALOG INPUT 10	ANALOG INPUT 11	ANALOG INPUT 12	ANALOG INPUT 13	ANALOG INPUT 14	ANALOG INPUT 15	ANALOG INPUT 16	GND	DIGITAL / PWM OUTPUT 28

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