



SPN5M SMART

CONTROLLER



- ECU equipped with smart high side mosfets
- Up to 16 inputs and up to 16 outputs
- Easily and quickly implemented in a CAN BUS network as SLAVE, with CANopen protocols
- Polyurethane resin case



TECHNICAL FEATURES

MASTER CODE SP.5MS.426

POWER SUPPLY 9-36 VDC – 30mA @ 24 VDC (STANDBY MODE)

INPUT **TOTAL No. 16 INPUTS**, SOFTWARE CONFIGURABLE AS:

- UP TO 16 DIGITAL INPUTS (HIGH SIDE)
- UP TO 4 DIGITAL INPUTS (LOW SIDE)
- UP TO 14 ANALOGIC INPUTS (0~40V)
- UP TO 4 ANALOGIC INPUTS (4~20mA)
- UP TO 2 FREQUENCY INPUTS (1~1000Hz)

OUTPUT **TOTAL No. 16 OUTPUTS**, SOFTWARE CONFIGURABLE AS:

- UP TO 8 PWM HIGH SIDE OUTPUTS
- UP TO 16 HIGH SIDE OUTPUTS (MAX 2A FOR EACH OUTPUT PIN)
→ MAX TOTAL HIGH SIDE OUTPUTS CURRENT 10 A)
- UP TO 4 DIGITAL LOW SIDE OUTPUT (MAX 500mA FOR EACH OUTPUT PIN)

CAN BUS No. 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)

OPTIONALS RTC (real time clock)
Additional 2nd CAN-BUS PORT

CONNECTION
See «MATING CONNECTORS» table MOLEX 48 PIN CONNECTOR

CASE ENCAPSULATED IN PUR RESIN - SELF-EXTINGUISHING UL94 (V0)

PROTECTION IP68

WORKING TEMPERATURE -40°C +85°C



(20/02/2026) - 1



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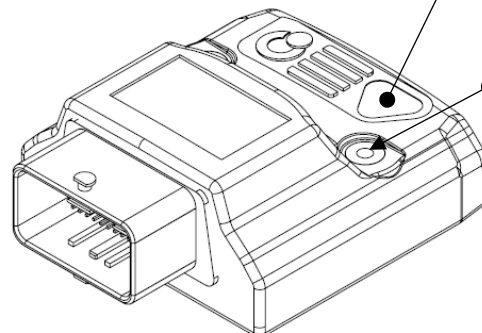
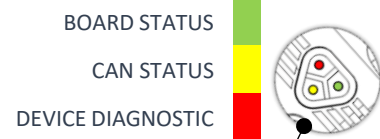
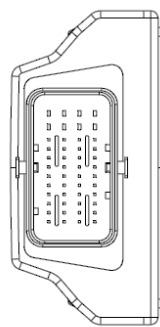
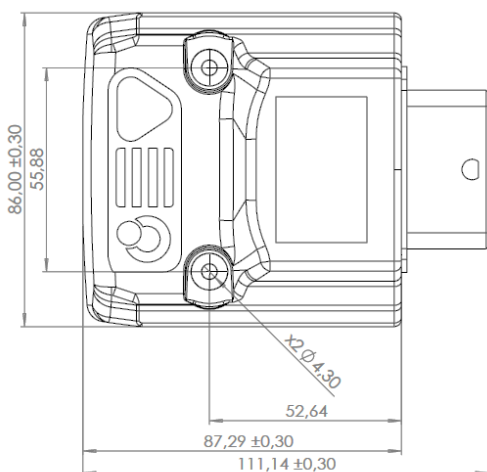
ELECTRONIC FEATURES

SLAVE USAGE	EDS FILE
PROGRAMMING	FIRMWARE UPLOAD BY CAN BUS WITH ALOADER SOFTWARE TOOL
CYCLE TIME	Less than 0,5 ms
CPU	PIC 16 bit
INTERNAL MEMORY	FLASH: 192 KB (PROGRAM MEMORY: 164 KB) EEPROM: 64 KB

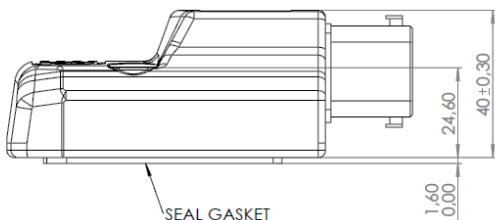
STANDARDS

DIRECTIVE	2014/30/EU (EMC)
ELECTROMAGNETIC COMPATIBILITY	EN 50498
ELECTROMAGNETIC EMISSIONS	EN 61000-6-4
ELECTROMAGNETIC IMMUNITY	EN 61000-6-2
ROAD VEHICLES ELECTRICAL DISTURBANCES FROM CONDUCTION AND COUPLING — PART 2	ISO 7637-2: 2011
ROAD VEHICLES COMPONENT TEST METHODS FOR ELECTRICAL DISTURBANCES FROM NARROWBAND RADIATED ELECTROMAGNETIC ENERGY — PART 1	ISO 11452-1: 2005
PERFORMANCE AND SAFETY INTEGRITY LEVEL	PLc – SIL1 (SINGLE-CHANNEL INTERNAL SCHEME)

SIZE (mm)



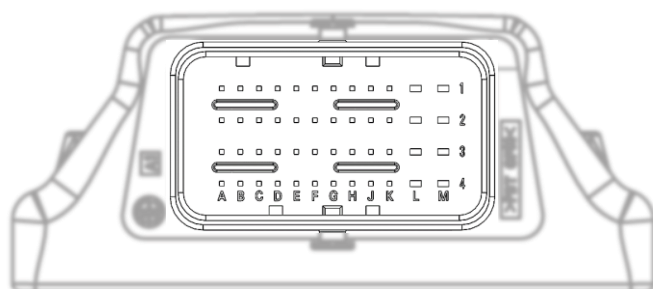
Fix the unit with Hex socket head screws of stainless steel and a sealing washer.





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48 PINS CONNECTOR PINOUT TABLE

PIN	A	B	C	D	E	F	G	H	J	K	L	M
1	DIGITAL / PWM OUTPUT 13	SUPPLY OUTPUTS 9...16	DIGITAL / PWM OUTPUT 12	DIGITAL / PWM OUTPUT 11	DIGITAL / PWM OUTPUT 10	DIGITAL / PWM OUTPUT 9	GND POWER SUPPLY	DIGITAL OUTPUT 8	DIGITAL OUTPUT 7	DIGITAL OUTPUT 6	SUPPLY OUTPUTS 1...8	DIGITAL OUTPUT 4
2	DIGITAL / PWM OUTPUT 14	INPUT 9 0...40Vdc/ DIGITAL	INPUT 8 0...40Vdc/ DIGITAL	INPUT 7 0...40Vdc/ DIGITAL	INPUT 6 4...20mA / 0...40Vdc/ DIGITAL	INPUT 5 4...20mA / 0...40Vdc/ DIGITAL	INPUT 4 4...20mA / 0...40Vdc/ DIGITAL	INPUT 3 4...20mA / 0...40Vdc/ DIGITAL	INPUT 2 0...40Vdc/ DIGITAL	INPUT 1 0...40Vdc/ DIGITAL	DIGITAL OUTPUT 5	DIGITAL OUTPUT 3
3	DIGITAL / PWM OUTPUT 15	INPUT 10 0...40Vdc/ DIGITAL	FREQ / DIGITAL INPUT 11	FREQ / DIGITAL INPUT 12	INPUT 13 0...40Vdc/ DIGITAL	INPUT 14 0...40Vdc/ DIGITAL	INPUT 15 0...40Vdc/ DIGITAL	INPUT 16 0...40Vdc/ DIGITAL	CAN2H*	CAN2L*	GND POWER SUPPLY	DIGITAL OUTPUT 2
4	DIGITAL / PWM OUTPUT 16	SENSOR POWER SUPPLY	SENSOR POWER SUPPLY	SENSOR POWER SUPPLY	GND	GND	GND	CAN1H	CAN1L	DEVICE POWER SUPPLY (+)	GND	DIGITAL OUTPUT 1

NOTES :

- «FREQ» means «frequency»
- (*) : CAN PORT 2 is an optional available on request
- Sensor power pins have the reference power supply voltage, MAX 200mA
- GND pins are connected together

TERMINAL WIRE SIZE: follow the manufacturer's mating connector specification

- from A1 to J4: 0.75 mm²
- from L1 to M4: 2.0 mm²

MATING CONNECTORS – MOLEX CODES

CONNECTOR	64320-3311
TERMINALS	64323-1029 (x8) 64322-1029 (x40)
WIRE CAP	64320-1301
ALMEC PRE-WIRED CONNECTOR	CNN.ML.48P.R.VD.CB (red cable) CNN.ML.48P.B.VD.CB (blue cable)





NOTE