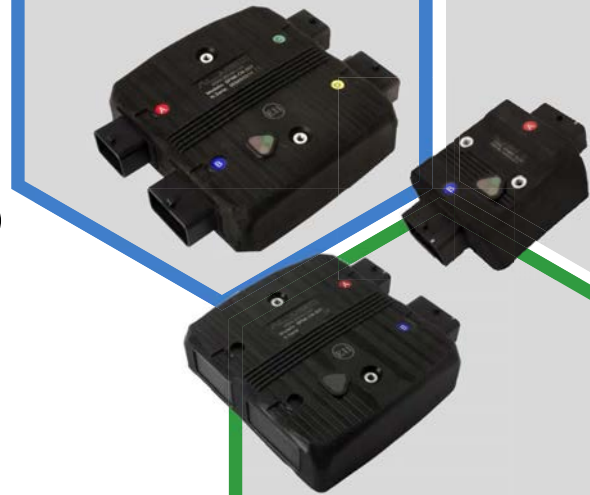


MECHATRONICS

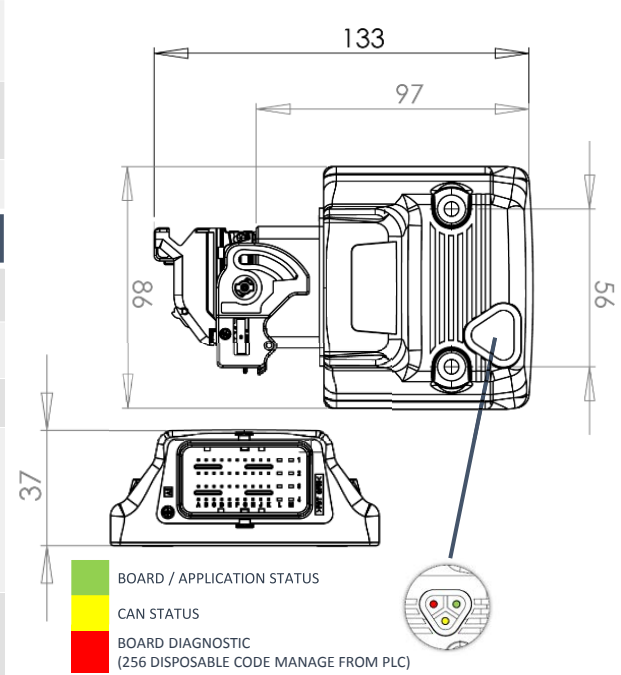
HY ECU RANGE



TECHNICAL FEATURES	
MASTER CODE	HYSFN5M.CN.S00
POWER SUPPLY	9-36 VDC / CURRENT CONSUMPTION 50 mA AT 24 VDC (STAND BY MODE)
INPUT	UP TO 16 DIGITAL INPUTS (HIGH SIDE) UP TO 14 ANALOGIC INPUTS (FULL RANGE 0..40V) UP TO 2 ANALOGIC INPUTS (4...20mA) UP TO 2 FREQUENCY INPUTS (HIGH SIDE UP TO 100Hz)
OUTPUT	UP TO 8 PWM HIGH SIDE OUTPUTS (MAX 2A SINGLE OUTPUT)* UP TO 16 HIGH SIDE OUTPUTS (MAX 2A SINGLE OUTPUT)* UP TO 6 LOW SIDE OUTPUTS – SHARED PIN WITH INPUTS (MAX CURRENT 500mA)
CAN BUS	1 PORT - 2.0B COMPLIANT - (11, 29 BIT) - ISO 11898 - UP TO 1MBIT/S
CAN BUS PROTOCOLS	CAN OPEN (CIA DS301 DEVICE PROFILE FOR GENERIC I/O MODULE, WITH DS306 EDS FILE) - SAE J1939 - ISO 11783 (ISO BUS) - FMS
SERIAL	1 PORT – RS232
CONNECTIONS	N°1 MOLEX 48 PIN
WORKING TEMPERATURE	-40°C +80°C
CASE	PUR

* Max total high side outputs current 8A

ELECTRONIC FEATURES	SIZE (mm)
SLAVE USAGE	BY EDS FILE (CODESYS COMPATIBLE)
MASTER USAGE	BY C PROGRAM LANGUAGE CODESYS
PROGRAMMING	FIRMWARE UPLOAD BY CAN BUS WITH A LOADER SOFTWARE TOOL
CYCLE TIME	50mS
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	MOSFET OUTPUT: 151.35 YEARS INPUT ONLY: 162.33 YEARS CALCULATED ACCORDING TO THE IEC61709 (SIEMENS SN29500), ENVIRONMENTAL FACTORS 3K7 (IEC60721)
IN ACCORDANCE WITH THE EN50948 THE DEVICE MEETS THE TECHNICAL SPECIFIC REQUIREMENTS OF 2004-104 DIRECTIVE (AUTOMOTIVE). THE DEVICE IS EMC 2004/108 COMPLIANT.	



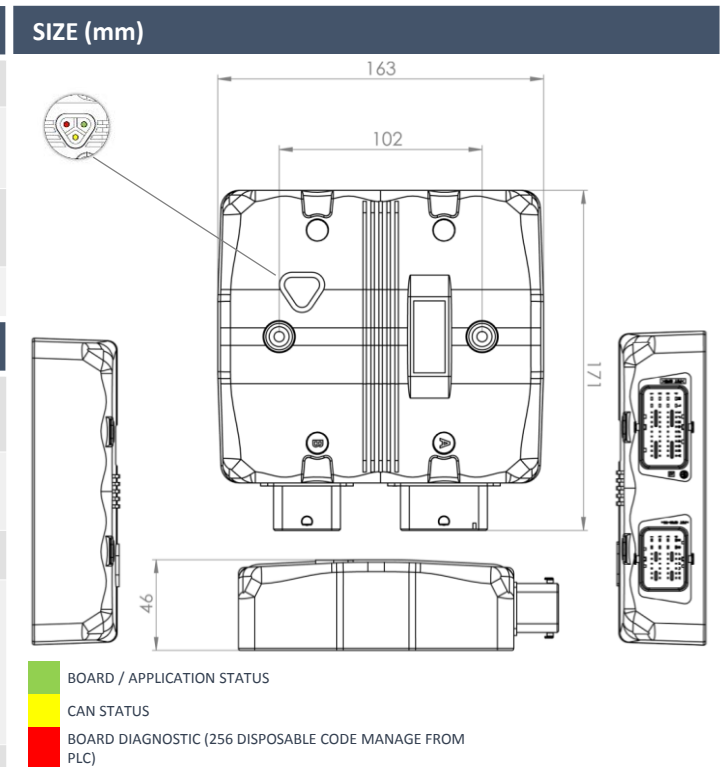
48 PINS CONNECTOR												
PIN	A	B	C	D	E	F	G	H	J	K	L	M
1	DIGITAL / PWM OUTPUT 13	SUPPLY OUTPUTS 9...16	DIGITAL / PWM OUTPUT 12	DIGITAL / PWM OUTPUT 11	DIGITAL / PWM OUTPUT 10	DIGITAL / PWM OUTPUT 9	FREE	DIGITAL OUTPUT 8	DIGITAL OUTPUT 7	DIGITAL OUTPUT 6	SUPPLY OUTPUTS 1...8	DIGITAL OUTPUT 4
2	DIGITAL / PWM OUTPUT 14	INPUT 9 0...40Vdc / DIGITAL	INPUT 8 0...40Vdc / DIGITAL / LOW SIDE OUTPUT 8**	INPUT 7 0...40Vdc / DIGITAL / LOW SIDE OUTPUT 7**	INPUT 6 4...20mA / 0...40Vdc / DIGITAL	INPUT 5 4...20mA / 0...40Vdc / DIGITAL	INPUT 4 0...40Vdc / DIGITAL / LOWSIDE OUTPUT 4**	INPUT 3 0...40Vdc / DIGITAL / LOW SIDE OUTPUT 3**	INPUT 2 0...40Vdc / DIGITAL / LOW SIDE OUTPUT 2**	INPUT 1 0...40Vdc / DIGITAL / LOW SIDE OUTPUT 1**	DIGITAL OUTPUT 5	DIGITAL OUTPUT 3
3	DIGITAL / PWM OUTPUT 15	INPUT 10 0...40Vdc / DIGITAL	FREQUENCY / DIGITAL INPUT 11	FREQUENCY / DIGITAL INPUT 12	INPUT 13 0...40Vdc / DIGITAL	INPUT 14 0...40Vdc / DIGITAL	INPUT 15 0...40Vdc / DIGITAL	INPUT 16 0...40Vdc / DIGITAL	RX	TX	GND POWER SUPPLY	DIGITAL OUTPUT 2
4	DIGITAL / PWM OUTPUT 16	SENSOR POWER SUPPLY	SENSOR POWER SUPPLY	SENSOR POWER SUPPLY	GND	GND	GND	CAN H	CAN L	MODULE POWER SUPPLY	GND	DIGITAL OUTPUT 1

TECHNICAL FEATURES	
MASTER CODE	SPN5.00
POWER SUPPLY	9-36 VDC / CURRENT ABSORPTION 50 mA AT 24 VDC (STAND BY MODE)
CAN BUS	2.0B COMPLIANT - (11, 29 BIT) - ISO 11898 - UP TO 1MBIT/S
CAN BUS PROTOCOLS	CAN OPEN (CIA DS301 DEVICE PROFILE FOR GENERIC I/O MODULE, WITH DS306 EDS FILE) - SAE J1939 - ISO 11783 (ISO BUS) - FMS
CONNECTIONS	N.1 MOLEX 32 PIN, N.1 MOLEX 48 PIN
WORKING TEMPERATURE	-40°C + 80°C
CASE	PUR

ELECTRONIC FEATURES	
SLAVE USAGE	BY EDS FILE (CODESYS COMPATIBLE)
MASTER USAGE	BY STANDARD C PROGRAM LANGUAGE CODESYS
PROGRAMMING	FIRMWARE UPLOAD BY CAN BUS WITH A LOADER SOFTWARE TOOL
CYCLE TIME	50ms

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	112.2479 YEARS CALCULATED ACCORDING TO THE IEC61709 (SIEMENS SN29500), ENVIRONMENTAL FACTORS 3K7 (IEC60721)

IN ACCORDANCE WITH THE EN50948 THE DEVICE MEETS THE TECHNICAL SPECIFIC REQUIREMENTS OF 2004-104 DIRECTIVE (AUTOMOTIVE). THE DEVICE IS EMC 2004/108 COMPLIANT.



A CONNECTOR
32 PINS

B CONNECTOR
48 PINS

I/O TABLE		
CODE	INPUTS	OUTPUTS
SPN5.CN.S02	8 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 12 PWM UP TO 8 DIGITAL (HIGH SIDE)
		HIGH SIDE PWM OUTPUT SINGLE OUT 4A MAX-MAX TOTAL 20A DIGITAL L HIGH SIDE OUTPUT SINGLE OUT 2A MAX – TOTAL DIGITAL 6A
SPN5.CN.S01	16 DIGITAL INPUTS HIGH SIDE INPUT LOW SIDE INPUT	UP TO 12 PWM UP TO 4 RELAY
		HIGH SIDE PWM OUTPUT SINGLE OUT 4A MAX-MAX TOTAL 20A RELAY SINGLE CONTACT MAX 3A

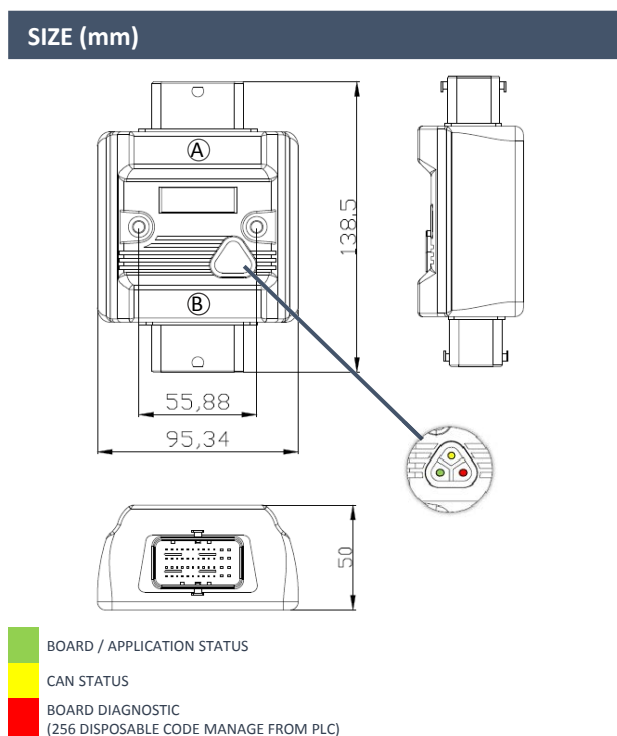
COUPLING CONNECTORS		
	32 PIN	48 PIN
CONNECTOR	64319-3211	64320-3311
TERMINAL	64323-1029 (x8) 64322-1029 (x24)	64323-1029 (x8) 64322-1029 (x40)
WIRE CAP	64319-1201	64320-1301



TECHNICAL FEATURES	
MASTER CODE	HYSFN6M.CN.00
POWER SUPPLY	9-36 VDC / CURRENT CONSUMPTION 100 mA AT 24 VDC (STAND BY MODE)
INPUT	UP TO 32 DIGITAL INPUTS (HIGH SIDE) UP TO 28 ANALOGIC INPUTS (FULL RANGE 0..40V) UP TO 4 ANALOGIC INPUTS (4...20mA) UP TO 4 FREQUENCY INPUTS (HIGH SIDE UP TO 100Hz)
OUTPUT	UP TO 16 PWM HIGH SIDE OUTPUTS (MAX 2A SINGLE OUTPUT)* UP TO 32 HIGH SIDE OUTPUTS (MAX 2A SINGLE OUTPUT)* UP TO 12 LOW SIDE OUTPUTS – SHARED PIN WITH INPUTS (MAX CURRENT 500mA)
CAN BUS	1 PORT - 2.0B COMPLIANT - (11, 29 BIT) - ISO 11898 - UP TO 1MBIT/S
CAN BUS PROTOCOLS	CAN OPEN (CIA DS301 DEVICE PROFILE FOR GENERIC I/O MODULE, WITH DS306 EDS FILE) - SAE J1939 - ISO 11783 (ISO BUS) - FMS
SERIAL	2 PORT – RS232
CONNECTIONS	N°2 MOLEX 48 PIN
WORKING TEMPERATURE	-40°C +80°C
CASE	PUR

* Max total high side outputs current 8A for each connector

ELECTRONIC FEATURES	
SLAVE USAGE	BY EDS FILE (CODESYS COMPATIBLE)
MASTER USAGE	BY C PROGRAM LANGUAGE CODESYS
PROGRAMMING	FIRMWARE UPLOAD BY CAN BUS WITH ALoader SOFTWARE TOOL
CYCLE TIME	50mS
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	MOSFET OUTPUT: 151.35 YEARS INPUT ONLY: 162.33 YEARS CALCULATED ACCORDING TO THE IEC61709 (SIEMENS SN29500), ENVIRONMENTAL FACTORS 3K7 (IEC60721)
IN ACCORDANCE WITH THE EN50948 THE DEVICE MEETS THE TECHNICAL SPECIFIC REQUIREMENTS OF 2004-104 DIRECTIVE (AUTOMOTIVE). THE DEVICE IS EMC 2004/108 COMPLIANT.	



COUPLING CONNECTORS - 48 PIN	
CONNECTOR	64320-3311
TERMINAL	64323-1029 (x8)
	64322-1029 (x40)
WIRE CAP	64320-1301

TECHNICAL FEATURES

MASTER CODE	HYSFN6.00
POWER SUPPLY	9-36 VDC / CURRENT ABSORPTION 50 mA AT 24 VDC (STAND BY MODE)
CAN BUS	2 PORTS – CANOPEN - 2.0B COMPLIANTS - (11, 29 BIT) - ISO 11898 - UP TO 1MBIT/S
CAN BUS PROTOCOLS	CAN OPEN (CIA DS301 DEVICE PROFILE FOR GENERIC I/O MODULE, WITH DS306 EDS FILE)- SAE J1939 - ISO 11783 (ISO BUS) - FMS
CONNECTIONS	N.2 MOLEX 32 PIN, N.2 MOLEX 48 PIN
WORKING TEMPERATURE	-40°C +80°C
CASE	PUR

ELECTRONIC FEATURES

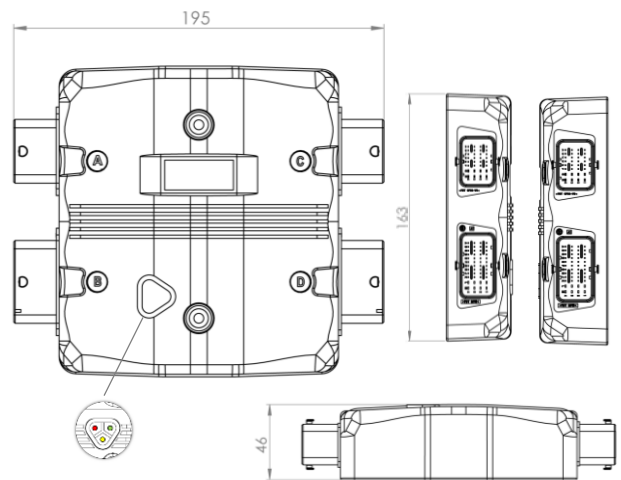
SLAVE USAGE	BY EDS FILE (CODESYS COMPATIBLE)
MASTER USAGE	BY STANDARD C PROGRAM LANGUAGE CODESYS
PROGRAMMING	FIRMWARE UPLOAD BY CAN BUS WITH A LOADER SOFTWARE TOOL
CYCLE TIME	50mS

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	112.2479 YEARS CALCULATED ACCORDING TO THE IEC61709 (SIEMENS SN29500), ENVIRONMENTAL FACTORS 3K7 (IEC60721)

IN ACCORDANCE WITH THE EN50948 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)

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
		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
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



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

Supported by a worldwide network



CONTACT INFORMATION

EMEA

GERMANY	Hydreco Hydraulics GmbH, Straelen (NRW)	+49 283494303-41	info-de@hydreco.com
ITALY	Hydreco Hydraulics Italia Srl, Vignola (MO)	+39 059 7700411	sales-it@hydreco.com
NORWAY	Hydreco Hydraulics Norway AS, Nittedal	+47 22909410	post-no@hydreco.com
UK	Hydreco Hydraulics Ltd, Poole, Dorset	+44 (0) 1202 627500	info-uk@hydreco.com

AMERICAS

USA	Hydreco Inc, Rock Hill (SC)	+1 704 295 7575	sales-us@hydreco.com
LATIN AMERICA		+1 704 572 6266	sales-es@hydreco.com

APAC

AUSTRALIA	Hydreco Hydraulics Pty Ltd, Seven Hills (NSW)	+61 2 9838 6800	sales-au@hydreco.com
AUSTRALIA	Hydreco Hydraulics Pty Ltd, Smeaton Grange (NSW)	+61 2 4647 6577	au-smeatongrange@hydreco.com
AUSTRALIA	Hydreco Hydraulics Pty Ltd, Welshpool (WA)	+61 8 9377 2211	reception-wa@hydreco.com
INDIA	Hydreco Hydraulics India Private Ltd, Bangalore	+91 80 67656300	sales-in@hydreco.com