Unify Electronic
Design and Engineering
Electronic Equipment

JEHX2A

Joystick Proportional Electronic Hall Effect

Description:

The Joystick Proportional electronic series JEH are used to operate by remote control ,with cable or radio ,the electro-hydraulics valves that are normally used for the directional control or for servo –control of pumps and hydraulic motors. The supply power voltage is from 8 to 30 VDC.

The series of the joysticks JEH includes cross double-axis configurations ,single-axis and double-axis free. This series consists of a robust mechanical linkage that move the electronic regulation made with hall effect technology without contact.
This technology ensures long-term reliability and performance, combined with an excellent tactile sensitivity control, unique characteristics for a product of this kind.
The sensors Hall Effect are fully protected against electromagnetic interference and radio frequency (EMI e RFI) until at 100 V/M. These sensors, having programmable logic with magnetic compensation temperature, ensure operability constant and repeatable in any operating condition.
The electronic commands JEH have been designed to have the maximum flexibility use; the modulate electronic system and the wide range of configuration of the control output signal which includes the format standard analog JEHA ,the format 25-75% of Vcc JEHD , the format PWM JEHP ,that CAN bus JEHC and Radio JEHR , allow you to meet many application needs ranging from aerospace to the naval; from construction machinery to agriculture ,as well as industrial applications.

The Joystick series JEH are all combined with our multifunction grips, cylindrical ID1 e ID2 , ergonomic grips IEM , which will thus be able to operate with a single command, lightweight and intuitive features up to 4 remote variable speed .

General Properties:

- Configuration axis ,double-axis and cross-axis free
- Wide range of shanks and control handles
- Duration 15 million cycles in all directions
- Maximum static load of 136Kg handle
- Working angle 20°for each axle
- Electronics insulated with protection class IP65
- Shielding EMI/RFI until at 100Vm
- Pre-travel and over travel programmable
- Output signal Analog, PWM, CAN bus and Radio
- Position indicator of neutral and safety

SPECIFICATIONS :

Electrical:

Nominal Supply power (Volt)	8 @30 Vdc
Output Signal (Volt)	0-5V/0-10/25-75%/PWM/CAN BUS/ RADIO 868
Tolerance output signal to the minimum angle to 0°÷2°	10%
Tolerance output signal to the maximum angle to 19°÷20°	10%
Supply corrent for each sensor (mA)	20mA
Limits of output current (mA)	3000mA
Type sensors	effetto Hall

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Mechanical:

-Mechanical life:	> $5x10^6$ cicli
-Maximum working angle :	20° for movement to axis X-Y 26° per movimenti combinati in diagonale
- Angle start signal:	α1= 8°
- Body Material:	Anticorodal
- Material of the trusters:	Stainless steel AISI 420
- Material of guide pushers:	Bronze
- Material of the supports:	Anticorodal
- Material of the bellows:	Neoprene
- Protection class:	IP 64
-Control force at the center of the lever	@ 20÷85°C (N)
-Control force at the center of the lever	@ -40°C (N)

Anvironmental:

Work Temperature °C	-40° - +85°
Storage Temperature °C	-65°- +105°
Resistance to humidity test	96% RH @70°per 96 ore
Resistance to vibrations	10g 10Hz : 2KHz sinusoidale
Protection class	IP64
Compatibility RFI	100V/M da 14KHz a 1 GHz
Compatibility EMI	MIL-STD-461D/SAEJ1113-22

Electrical Characteristics mod. JEHA(Analog)

SUPPLY VOLTAGE:.....da 8V @ 30V
CURRENT:.....18mA @ 12V
OUTPUT ANALOG:..... .....N 4
SETTING OUTPUT :
OUTPUT VOLTAGE.....0-5Vdc
OUTPUT VOLTAGE.. .....0-2,5-5Vdc
OUTPUT VOLTAGE 0-10Vdc
OUTPUT VOLTAGE 0-5-10Vdc
OUTPUT VOLTAGE 25%-75%Vdc
OUTPUT CURRENT.....4-20mA
TOLERANCE :.....+/-2%
RISOLUTION :.....10 Bit
CURRENT FOR ONLY SINGLE CANNEL.....50mA
OUTPUT OUT CENTER NPN.....n 4
CURRENT MAX OUT CENTER.....100mA
TEMPERATURE RANGE:.....-15°C ÷ +70°C
OUTPUT PROTECTED AGAINST SHORT CIRCUIT

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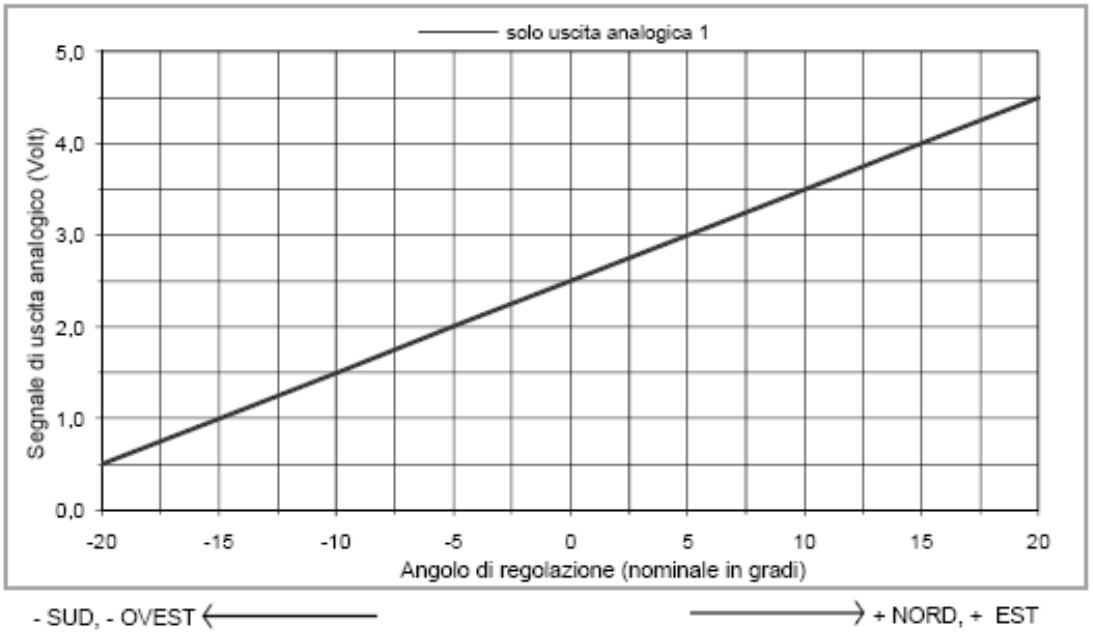
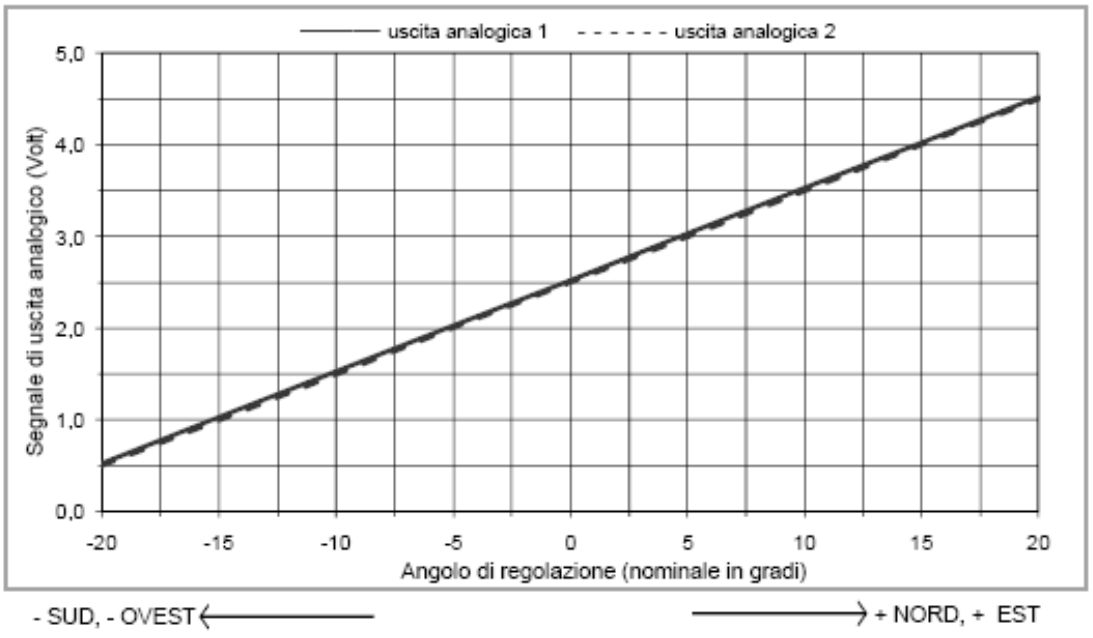
Joystick Proportional Electronic Hall Effect

Curve output signal:

Curva di regolazione **A** (max.- | zero | max. +) per joystick monoasse solo Nord-Sud



Curva di regolazione **B** (max. - | zero | max. +) per joystick monoasse solo Nord-Sud



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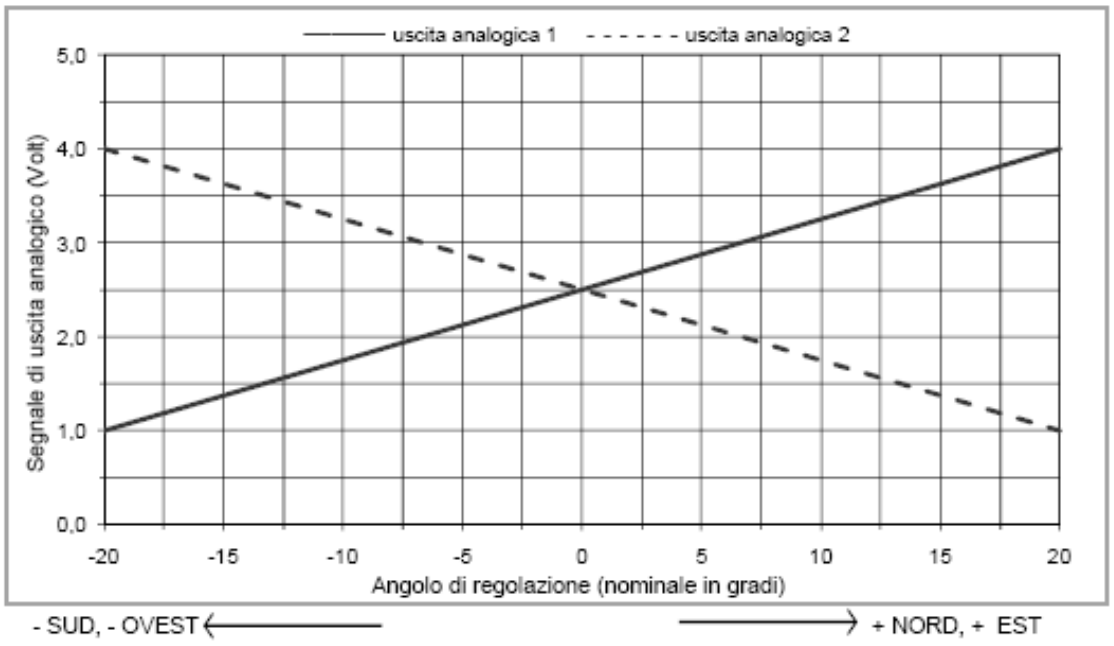
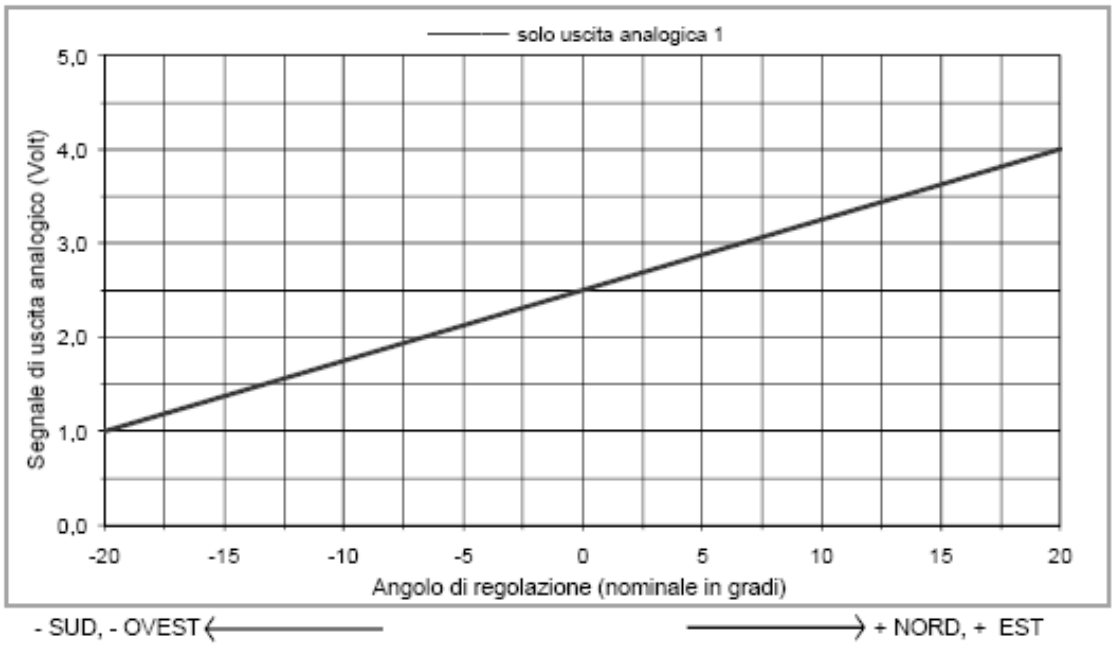
Joystick Proportional Electronic Hall Effect

Curve output signal:

Curva di regolazione **C** (max. - | zero | max. +) per joystick monoasse solo Nord-Sud



Curva di regolazione **D** (max. - | zero | max. +) per joystick monoasse solo Nord-Sud



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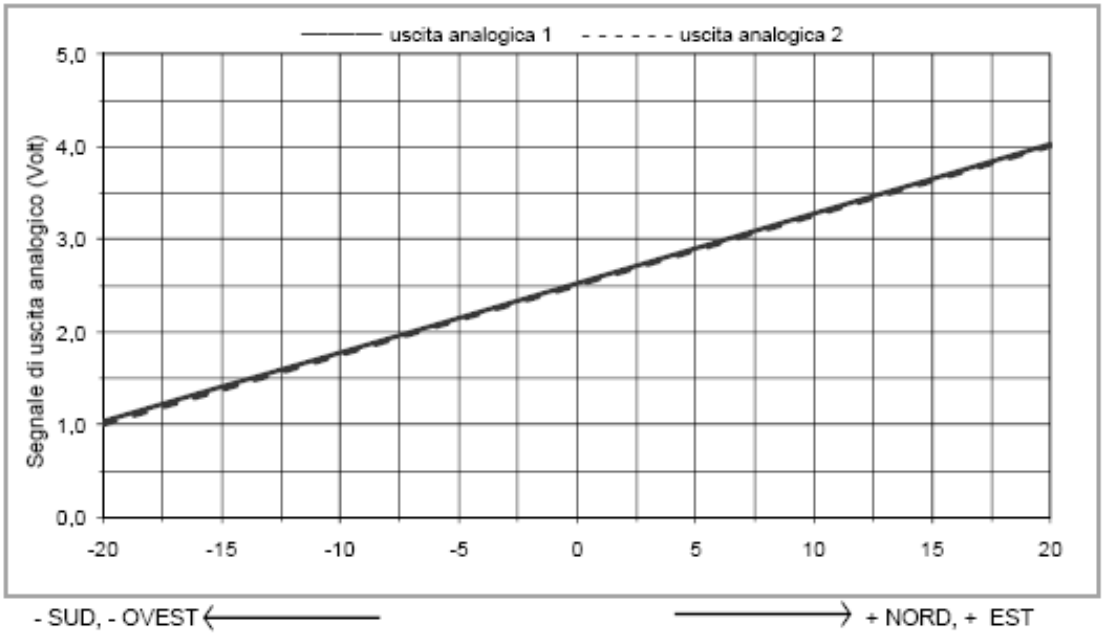
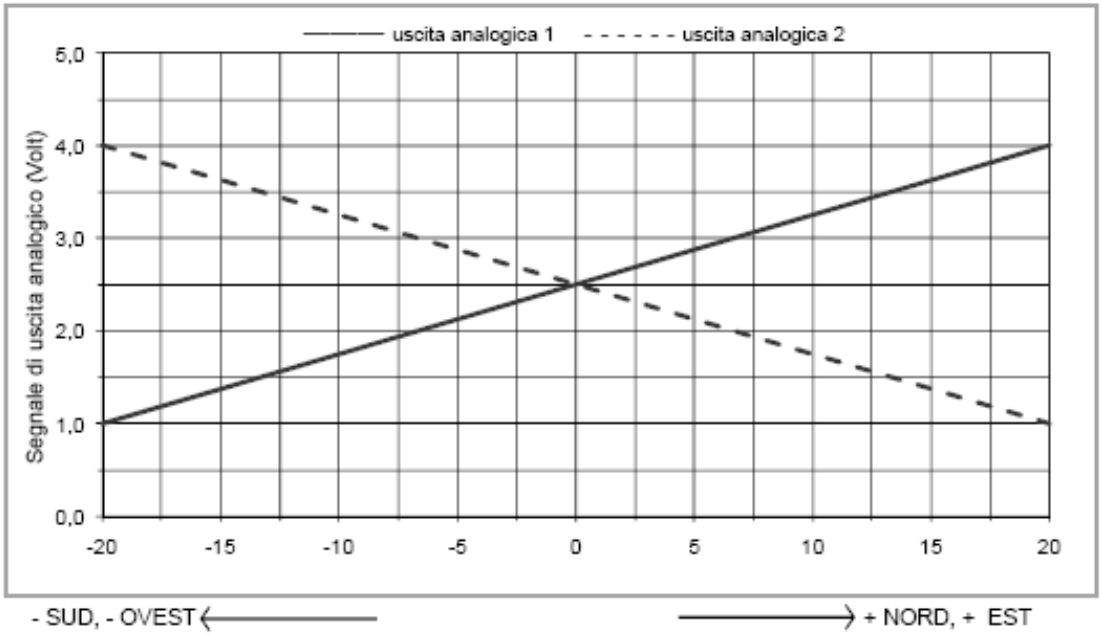
Joystick Proportional Electronic Hall Effect

Curve output signal:

Curva di regolazione **E** (max. - | zero | max. +) per joystick monoasse solo Nord-Sud



Curva di regolazione **F** (max. - | zero | max. +) per joystick monoasse solo Nord-Sud



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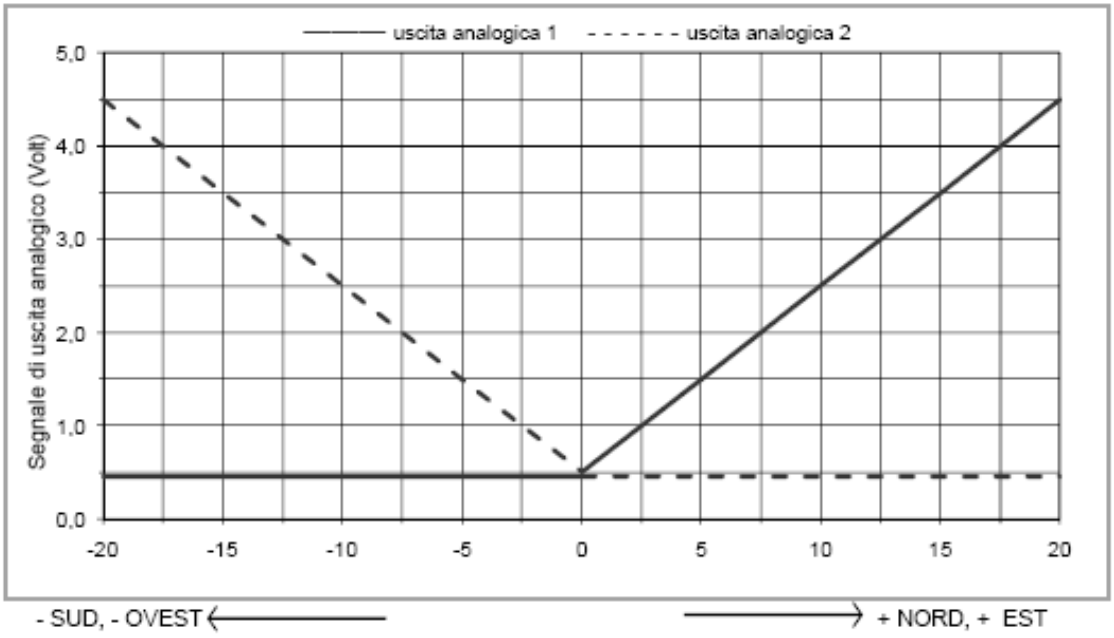
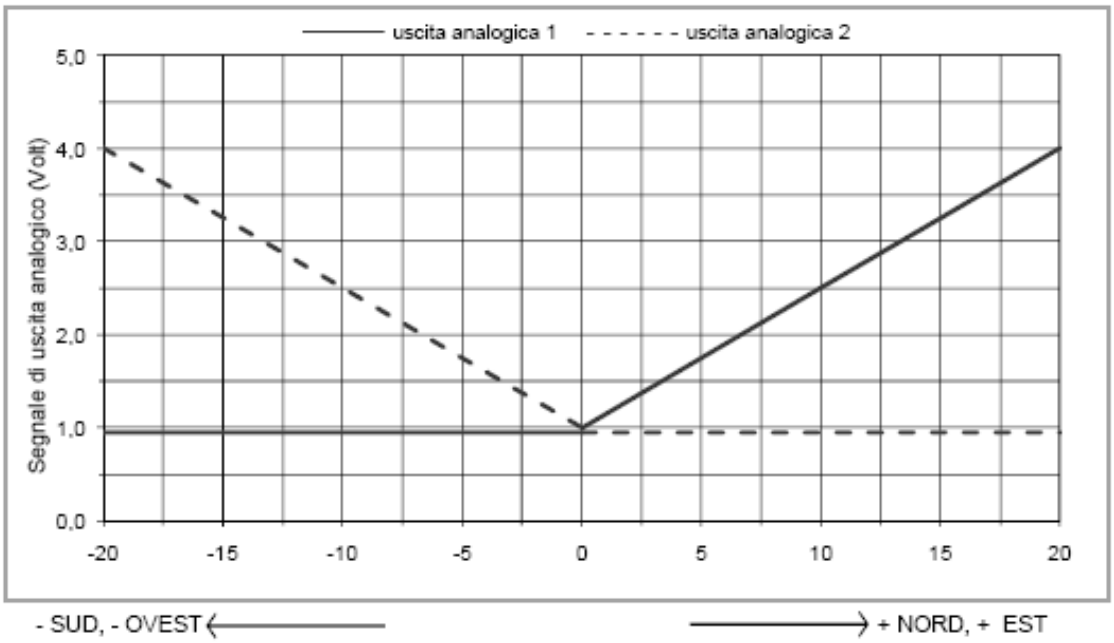
Joystick Proportional Electronic Hall Effect

Curve output signal:

Curva di regolazione **G** (max. - | zero | max. +) per joystick monoasse solo Nord-Sud



Curva di regolazione **H** (max. - | zero | max. +) per joystick monoasse solo Nord-Sud



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Joystick Proportional Electronic Hall Effect

Electrical Characteristics mod. JEHP (PWM)

SUPPLY VOLTAGE:.....da 8V @ 30V
CURRENT:.....18mA @ 12V
OUTPUT PWM: ....N 4
SETTING CURRENT OUTPUT
OPERATING CURRENT RANGE:.....da 0.05A @ 2,5 A
CURRENT REGULATION Imin., Imax:.....0 – 50%
CURRENT REGULATION:.....0 – 10Sec
PWM:.....30Hz- 330Hz
RESOLUTION PWM:.....10 Bit
TOLERANCE:.....+/-2%
OPERATING TEMPERATURE RANGE:.....-15°C ÷ +70°C
CONNECTOR:.....con cavo o CONN a richiesta
OUTPUT PROTECTION OF THE SHORT-CIRCUIT
SETTING RANGE WITH SOFTWARE GAMMA 1 SUITE

Electrical Characteristics mod. JEHC (CANbus)

SUPPLY VOLTAGE:.....da 8V @ 30V
CURRENT:.....18mA @ 12V
OUTPUT CAN BUS:..... .....N 1
PROTOCOL:.....J1939
PROTOCOL:.....CANOPEN
PROTOCOL:.....Personalizzabile
RESOLUTION:.....10 Bit
TOLERANCE :.....+/-2%
OPERATING TEMPERATURE RANGE:.....-15°C ÷ +70°C

Electrical Characteristics mod. JEHR (Radio)

TRANSMITTER

SUPPLY VOLTAGE:.....da 8V @ 30V
CURRENT:.....18mA @ 12V
OUTPUT RADIO Analog:..... .....N 8
OUTPUT RADIO Digital:..... .....N 18
RADIOI FREQUENCY:.....868MHz
DISTANCE:.....150mt
OUTPUT POWER:.....14dBm
SERIAL DATE: .....115,2 Kbps
RADIO DATE:.....da 9,6Kbps a 115,2Kbps
SENSIBILITY:.....(CER<10-³) -109dBm
CONSUMPTION RX:.....26mA
CONSUMPTION TX: 45mA
CANNEL:.....2 – 60
MODULATION: .....GFSK
MODALITY:.....punto punto, start network
RISOLUCTION:.....10 Bit
TOLLERANCE :.....+/-2%
OPERATING TEMPERATURE RANGE:.....-40°C ÷ +85°C

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Joystick Proportional Electronic Hall Effect

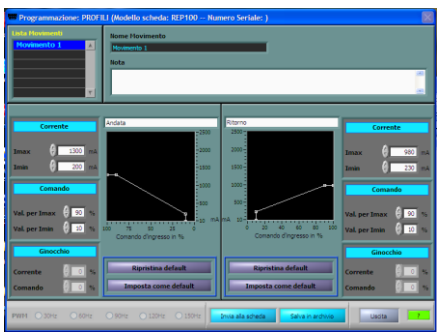
RICEIVER

SUPPLY VOLTAGE:.....da 8V @ 30V
CURRENT:.....18mA @ 12V
OUTPUT PWM:..... .....N 8
SETTING CURRENT OUTPUT
OPERATING CURRENT RANGE:.....da 0.05A @ 2,5 A
CURRENT REGULATION Imin., Imax:.....0 – 50%
OPERATING TIME RANGE:.....0 – 10Sec
PWM:.....30Hz- 330Hz
RESOLUTION PWM:.....10 Bit
TOLERANCE :.....+/-2%
OUTPUT ON/OFF..... .....N 18
SOLENOID :.....da 2,5 A
OUTPUT ANALOG:..... N 2
VOLTAGE :.....0-10V
CURRENT:.....4-20mA
RADIO FREQUENCY:.....868MHz
DISTANCE:.....150mt
OUTPUT POWER:.....14dBm
SERIAL DATE: .....115,2 Kbps
RADIO DATE:.....da 9,6Kbps a 115,2Kbps
SENSIBILITY:.....(CER<10-³) -109dBm
CONSUMPTION RX:.....26mA
CONSUMPTION TX: 45Ma
CANNEL:.....2 – 60
MODULATION: .....GFSK
MODALITY:.....punto punto, start network
RISOLUTION:.....10 Bit
TOLERANCE :.....+/-2%
OPERATING TEMPERATURE RANGE:.....-40°C ÷ +85°C

Electrical Characteristics Kit PPC (Programming)

GAMMA 1 SUITE

SUPPLY VOLTAGE adapter to Pc o Rep:.....5V
CURRENT:.....20mA
OPERATING TEMPERATURE RANGE:.....-15°C÷70°C
PROTECTION CLASS:.....IP55
CABLES SUPPLIED:.....1pz
OUTPUT CONNECTOR RJ45 I2C
INPUT RS 232
STORING DATA ON DATA BASE
CABLE ethernet normal:.....1mt



PROGRAMMING PARAMETRES Imin., Imax., Ramp,
Input referance, valves supply, PWM at work,
Sensitive regulation of the input signal, regulation central point
(point of no work solenoid or dead side)

PRODUCT CONFORMITY WITH EUROPEAN STANDARDS RHOS 2002/95/CE

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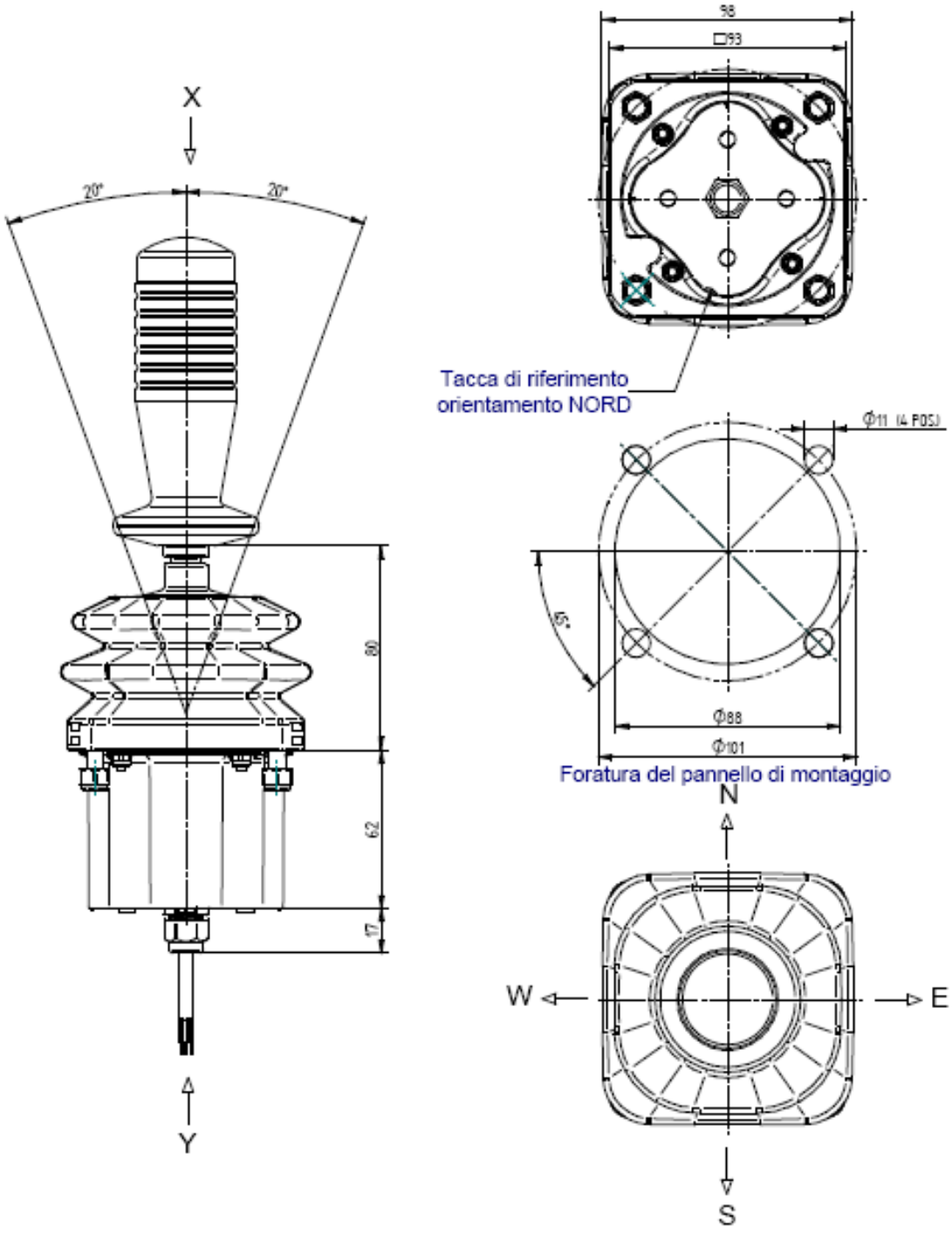
Installation Dimensions :



Joystick JIDXHX double axis with cylindrical handle without buttons

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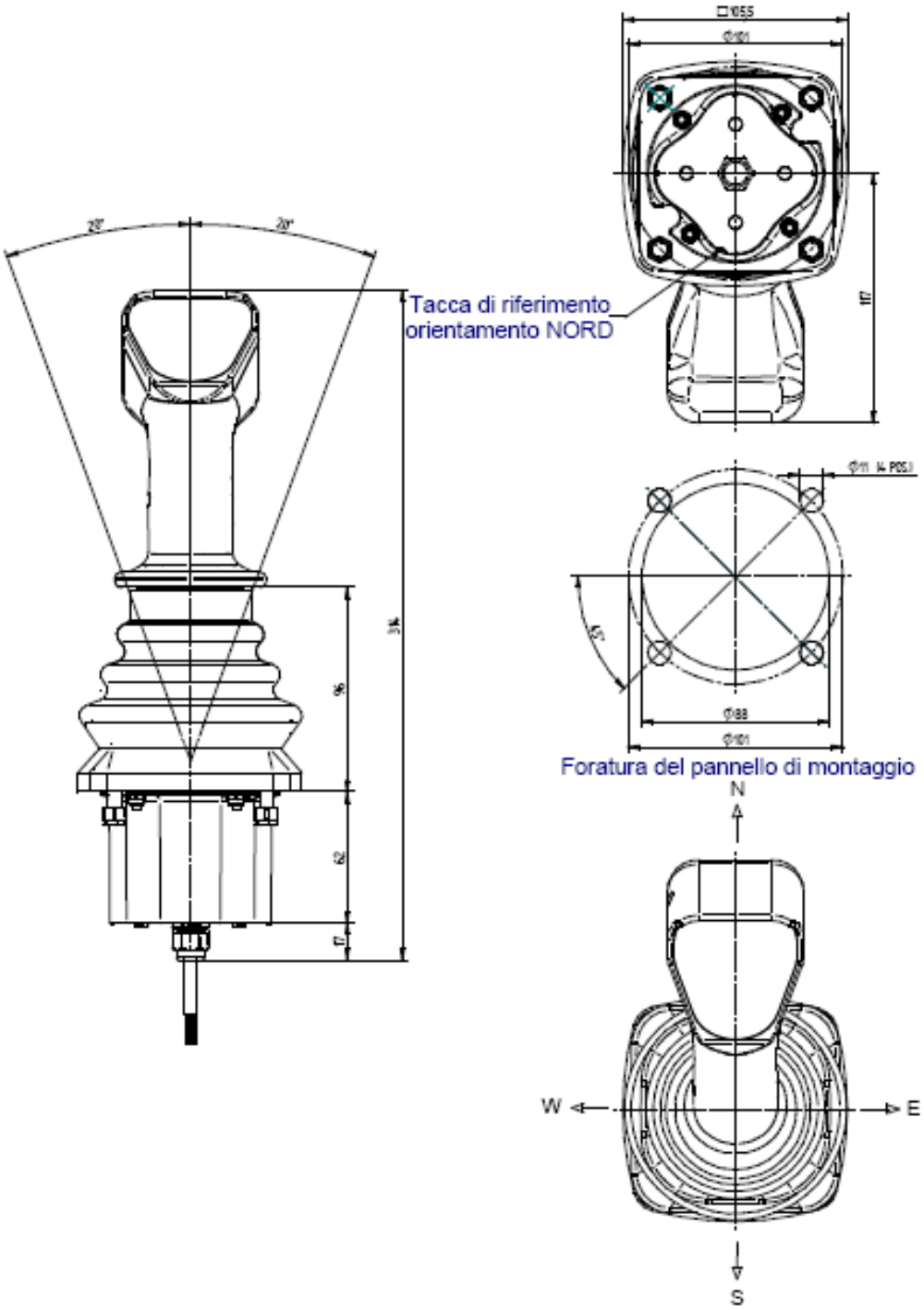
Installation Dimensions:



Joystick JEHX biasse double axis with ergonomic handle without buttons

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Control Handle:

Senza impugnatura	Z
A pomello, solo per monoasse M	IP1
Cilindrica standard	ID1
Cilindrica multifunzione	ID2
Ergonomica multifunzione	IE1
Ergonomica multifunzione	IG3

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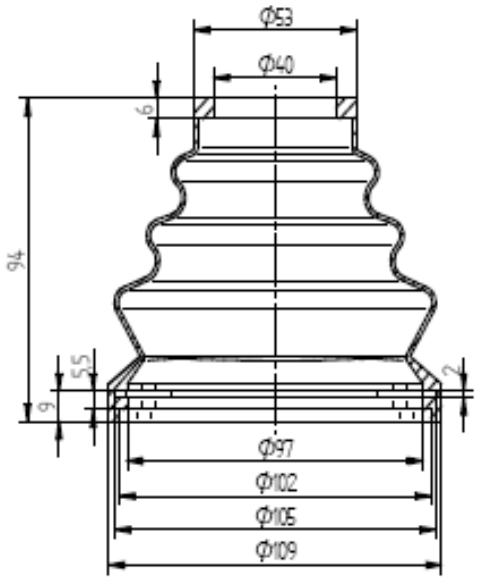
Protective bellows for dual axis joystick:

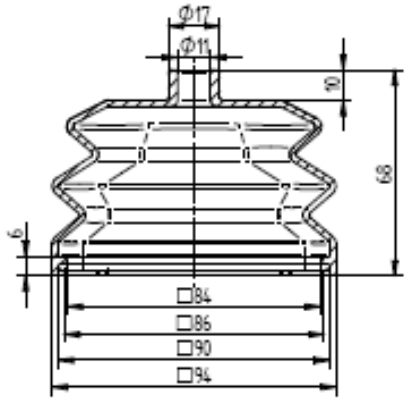
Senza soffietto di protezione	Z

Soffietto rettangolare, unica opzione disponibile per monoasse	R

Soffietto di protezione alto per impugnature ergonomiche	A

Soffietto di protezione basso per impugnature cilindriche	B





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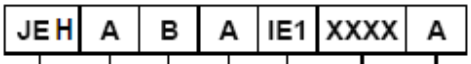
Kay Order:



Soffietto di protezione (pag. 13):

- Z = Senza soffietto
- A = Soffietto quadro alto per joystick biasse
- B = Soffietto quadro basso per joystick biasse
- R = Soffietto rettangolare per joystick monoasse

Codice impugnatura:

Viene assegnato dal nostro ufficio tecnico

Impugnatura di comando (pag. 12):

- Z = Senza impugnatura
- ID1 = Impugnatura cilindrica standard
- ID2 = Impugnatura cilindrica multifunzione
- IE1 = Impugnatura ergonomica multifunzione
- IG3 = Impugnatura ergonomica multifunzione
- IPR = Impugnatura a pomello rotondo (per monoasse)

Curva di regolazione in uscita (pag. 5-6-7-8):

- A = da 0,5 a 4,5 VDC ad una uscita (zero laterale)
- B = da 0,5 a 4,5 VDC a due uscite a // (zero laterale)
- C = da 0,5 a 4,5 VDC a due uscite a X (zero centrale)
- D = da 1 a 4 VDC ad una uscita (zero laterale)
- E = da 1 a 4 VDC a due uscite a // (zero laterale)
- F = da 1a 4 VDC a due uscite a X (zero centrale)
- G = da 0,5 a 4,5 VDC a due uscite a V (zero centrale)
- H = da 1 a 4 VDC a due uscite a V (zero centrale)

Configurazione joystick:

- B = Biasse
- M = Monoasse

Formato segnale di uscita:

- A = Analogico
- P = PWM
- C = CANbus (*)
- R= RADIO
- D= 25/75% VCC

Modello base:

- JEH = Joystick elettrico proporzionale

The company assume no responsibility for only errors which may appear in this document, reserves the right to change device or specifications detailed herein at any time without notice.