1400
Multiaxis electronic control

It is a modular system where different types of electronic axis controllers and electronic devices are mounted side by side

It can work as a multifunction interface towards high level supervisory control systems.
It can operate as a stand alone fully programmable device which autonomously controls the whole process: from the elaboration of input signals to the generation of power commands for the hydraulic distributors.
It can operate as a remote controller: the commands acquired locally, are sent via CANBus to decentralized peripherals which generate signal and power commands to the machine. Several interfaces are available: voltage, current, PWM, CANBus.

SINGLE AXIS ELECTRONIC CONTROLLER

Standard stroke is +/- 20 degrees, measured with respect to the lever's central position.

Device root code (DDDD): 1410

Available in the following versions.

- Control lever with return to central position: code 1410
- Control lever with friction: code 1411
- Control lever with friction and neutral detent at the centre of the stroke: code 1412
- Control lever with syringe for the release from neutral position: code 1413
- Control lever with friction and detents in any position defined by the customer: code 141X

For the different versions and combination of switches and LEDs, please refer to next section.

JOYSTICK DUAL AXIS ELECTRONIC CONTROLLER

Device root code (DDDD): 1420

- Stroke on direction N-S: +/–20°
- Stroke on direction E-W: +/–15°

For the different versions and combination of switches and LED, please refer to next section.

PANNEL CONTROLLER FREELY CONFIGURABLE

It is configurable according to the customer specification and can be combined with switches, rollers, potentiometer, LED.

Device root code (DDDD): 1430

For the different versions and combinations of switches, rollers, LED, a joint drawing between the customer and Flexball must be specified.

EXTENDED REMOTE CONTROLLER

The extended remote controller converts the digital signals into power commands for the actuation of the hydraulic valves. Due to the high stability of the CANBus communication, the extended remote controller can be placed at almost any distance from the multiaxis controller. The connection cable between the two is a very slim two poles cable.
The PWM outputs are according to the pin-out reported in the section MACHINE INTERFACE.

Device root code (DDDD): 1440

ELECTRIC AND ELECTRONIC ACCESSORIES

Knob with
push button (400 mA)

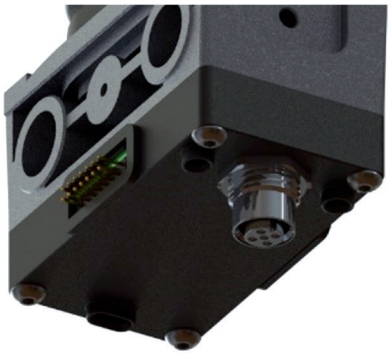
Knob with LED

1 digit code (K) defines the configuration of the knob that can be mounted either on the single axis controller or on the joystick:

Knob configuration	Code (K)
Knob without push button and without LED	0
Knob with push button (400 mA)	1
Knob with LED	2
Knob with push button (400 mA) and with LED	3

MACHINE INTERFACE

CANBUS

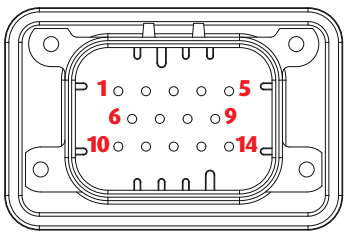


Electronic connector is placed under the base on the control. It is a standard TE M12 4 poles A code connector.

PIN	
1	GND
2	SUPPLY (8/30 Vdc)
3	CAN L
4	CAN H

PWM

Electronic connector is placed under the base on the control. This is a standard TE connector Vertical HDR for printed circuit board application with 14 poles. It should be matched with TE connector code 776273-1 or similar.



PIN		PIN	
1	COIL A-	8	CAN H
2	COIL A+	9	GND
3	Do not Connect	10	COIL C-
4	COIL B+	11	COIL C+
5	COIL B-	12	DIGITAL OUT-
6	SUPPLY (8/30 Vdc)	13	COIL D+
7	CAN L	14	COIL D-

The device which has the electronic interface is always mounted on the left side of the "package". 1 digit define the type of interface.

Type of machine interface	Type of connector	Notes	Code (S)
Voltage			0
Current 4-20 mm			1
PWM	Tyco Vertical HDR 14 poles	Maximum 8 channels (8 solenoid valve per system). Further information is in a separate document	2
Canbus	M12	CanBus protocol is described in a separate document	3

CODING SYSTEM

Device					Mounting		Signal	Knob		Special projects			
D	D	D	D	-	J	-	S	K	-	X	X	X	X

The code is composed of 14 digits which correspond to the following:

D	D	D	D

defines the product type and its configuration

DDDD = 1410 single axis
DDDD = 1420 dual axis
DDDD = 1430 panel control
DDDD = 1440 extended remote controller

J

defines the type of mounting

J = 0 bottom
J = 1 top

S

defines the type of signal

S = 0 voltage
S = 1 PWM
S = 2 4-20 mA
S = 3 Canbus

K

defines the type of knob (for complete description of handles refer to Chapter 7 of the Industrial Catalogue)

K = 0 without knob
K = 1 standard knob

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