HYQUIP
+44 (0)1204 699959
enquiries@hyquip.co.uk
hyquip.co.uk

Electronic signal transmitter

RE 29753/04.05 1/6
Replaces: 07.02

Type VT 10468

Series 3X
Single axis version


F 87015_d

Overview of contents

Features

Contained within the VT 10468-3X electronic signal transmitter are the electronic and mechanical components which are used to convert the lever movement into a proportional electrical voltage.

- Sensitive control due to low operating forces
- Integrated evaluation electronics
- ±15 V DC supply voltage
- Replacable gaiter
- Switched off if there is a cable break in the supply cables
- Polarity protection

Options:

- Dead-man switch in the hand lever
- Additional controls possible via various switches fitted into the hand lever
- Can be held in any position by means of a friction brake
- The zero point may be mechanically locked
- Directional contacts for electrical monitoring of the hand lever movement

Knowledge is POWER – Motion Force Control is our Business
HYQUIP Limited New Brunswick Street Horwich Bolton Lancashire BL6 7JB UK

HYQUIP
+44 (0)1204 699959
enquiries@hyquip.co.uk
hyquip.co.uk

Ordering details

VT 10468 –3X/ – *

Single axis signal transmitter

Series 30 bis 39 **= 3X**
(30 to 39: unchanged technical data and connection allocation)

Additional functions
Friction brake **= B**
Spring return **= F**

Lever form	Additional functions	Protection to EN 60529	
Hand lever	None	IP 65	**= 0**
Hand lever	Push button	IP 65	**= 1**
Hand lever	Rocker switch	IP 65	**= 2**
Hand lever	Pressure operated switch	IP 65	**= 3**
Hand lever	Rocker switch with detent	IP 65	**= 4**
Ball lever	None	IP 65	**= 5**
Ball lever	With dead-man contact	IP 53	**= 6**
Ball lever	With mech. pull detent	IP 65	**= 7**

Futher details in clear text

Direction contact
R0 = No contact
RX = Contact in the X axis

Function

Mechanics

The simple robust mechanism consists of a control lever mounted in a swivel bearing. By deflecting the lever, the setting of a plastic track potentiometer is changed. Dependent upon the model, the control lever is automatically spring returned to the neutral position or held in any position by a friction brake.
A mechanical detent can also be fitted into the hand lever. The mechanism is protected by a rubber gaiter.

Zero position, directional and dead-man contacts

In order to be able to electrically monitor the direction of lever movement and the zero position, a switch can be fitted per half axis. This switch closes when the lever is moved between ±5 % to ±10 % of the maximum travel (referred to the output signal of ±10 V).

The transducer can also be fitted with a dead-man switch. This is operated by pressing the upper half of the hand lever (at right angles to the plane of installation).

When these functions are required, they are connected via a 2nd non-screened cable.

Electronics

The plastic track potentiometer is connected in series with an impedance converter, which ensures that the control curve remains within the specified limits, even with varying loading on the control output. The electronics also carry out other protective functions. Should a cable break in the ±15V lines occur, then the supply to the electronics is automatically switched off internally. The electrical connection is via multi-core screened cable.

The combination of plastic track potentiometer and impedance converter ensures that a long service life is achieved.

Engineering guidelines

Attention: If the transmitter is installed in a fully isolated manner, then the transmitter housing must be earthed by a seperate cable!

Knowledge is POWER – Motion Force Control is our Business
HYQUIP Limited New Brunswick Street Horwich Bolton Lancashire BL6 7JB UK

HYQUIP
+44 (0)1204 699959
enquiries@hyquip.co.uk
hyquip.co.uk

Technical data (for applications outside these parameters, please consult us!)

Electronics		
Supply voltage	*U*	±15 VDC (± 1 %) stabilised
Current consumption	*I*	Approx. 30 mA
Control outputs		
– Output voltage	*U*	Max. ±10 V
– Output current	*I*	Max. ±5 mA
Switched contacts		2 A, Max. 30 VDC (ohmic load)
Fuse	I_S	2 A, medium blowing characteristics
Mechanics		
Lever displacement angle	α	Approx. 20° from the spring centre position to the end position (when operated in the X direction)
Operating force	*F*	Start value approx. 6 N Final value approx. 10 N
Protection to EN 60529		
– above the mounting plane:		See ordering details
– below the mounting plane:		IP 65
Cable length	*l*	600 mm
Permissible ambient temperature	ϑ	–25 to +70 °C
Weight	*m*	Approx. 1.5 kg

Cable allocation

Colour of the connecting cables (cable 1 – screened):

Supply lines:	Red	+15 V
	Black	M0 (measured zero)
	Blue	–15 V
Signal lines:	White	M0 (measured zero)
	Pink	X axis
Screen:	Yellow/green	Housing transmitter
	Transparent	Screen

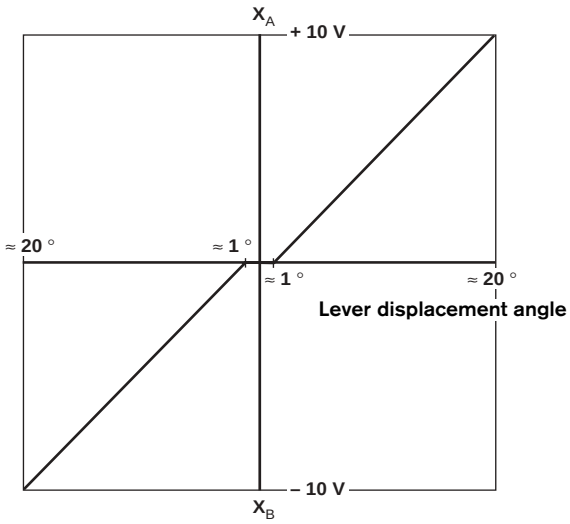
Notes:
– The cable screen is not connected internally!
– If the transmitter is installed in a fully isolated manner, then the transmitter housing must be connected to earth!

Colours of the connecting cables (cable 2 – non screened):

Feed cable:	Blue	
Directional contacts:	Grey/Pink	X_A
	Red/Blue	X_B
Dead-man contact:	Grey	
Zero position contact:	Black	X axis

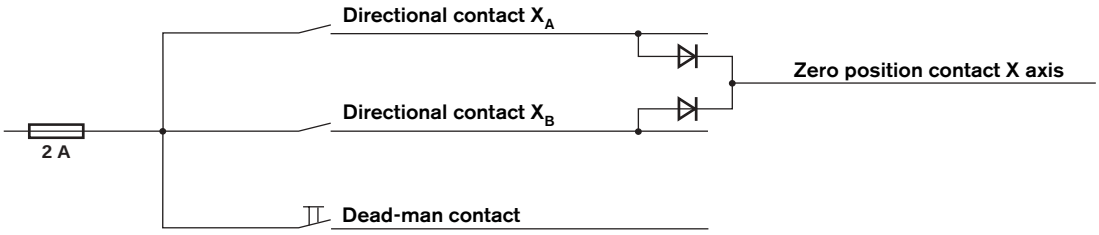
Characteristic curves

X axis



HYQUIP
+44 (0)1204 699959
enquiries@hyquip.co.uk
hyquip.co.uk

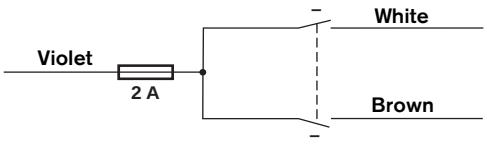
Zero position, directional and deadman contacts



Switch in the lever

Pressure switch and push button

Rocker switch and rocker switch with detent

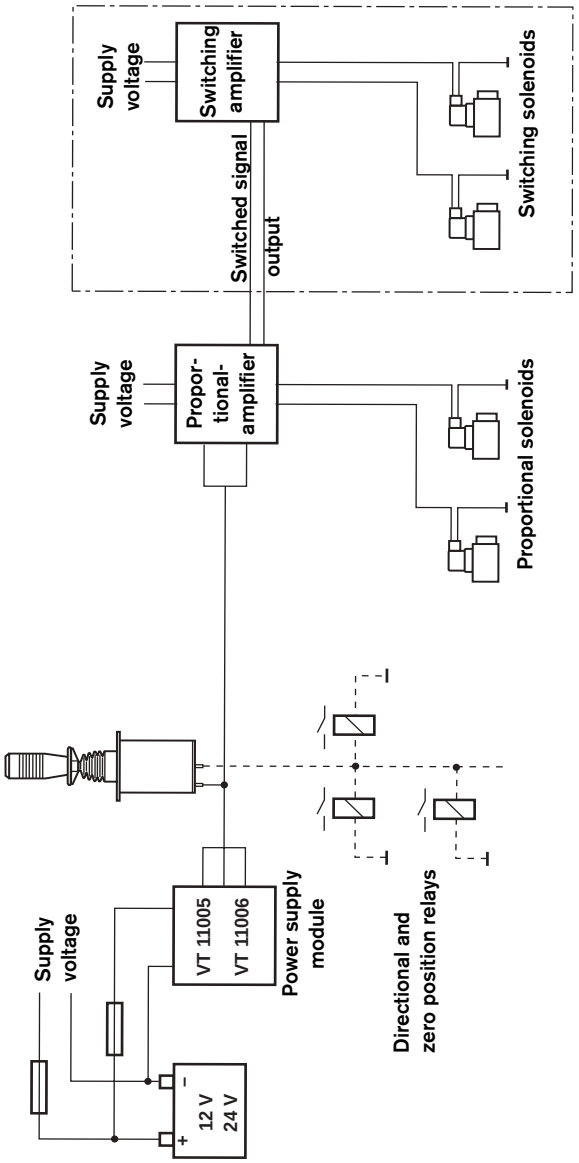


Colours of the connecting cable (cable 2 – non screened):

Feed cable:	Violet
Pressure operated switch and push button:	White
Rocker switch and rocker switch with detent:	Brown

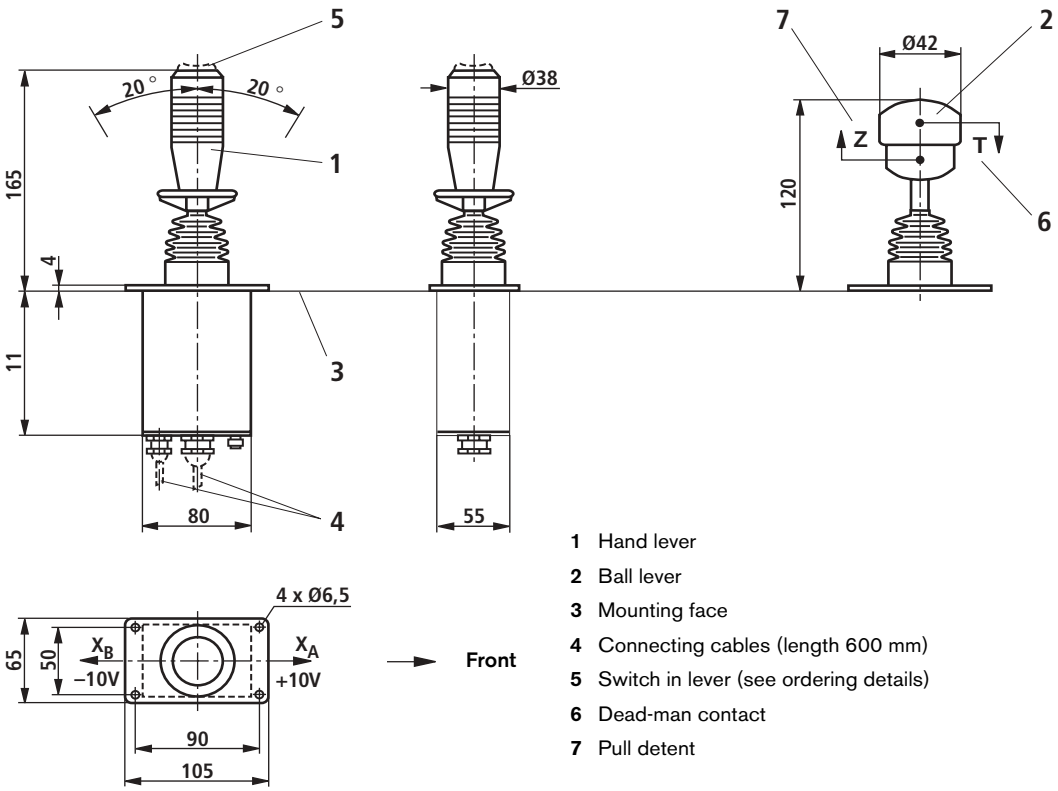
Knowledge is POWER – Motion Force Control is our Business
HYQUIP Limited New Brunswick Street Horwich Bolton Lancashire BL6 7JB UK

Circuit example



HYQUIP
+44 (0)1204 699959
enquiries@hyquip.co.uk
hyquip.co.uk

Unit dimensions (dimensions in mm)



1 Hand lever
2 Ball lever
3 Mounting face
4 Connecting cables (length 600 mm)
5 Switch in lever (see ordering details)
6 Dead-man contact
7 Pull detent

Knowledge is POWER – Motion Force Control is our Business
HYQUIP Limited New Brunswick Street Horwich Bolton Lancashire BL6 7JB UK