



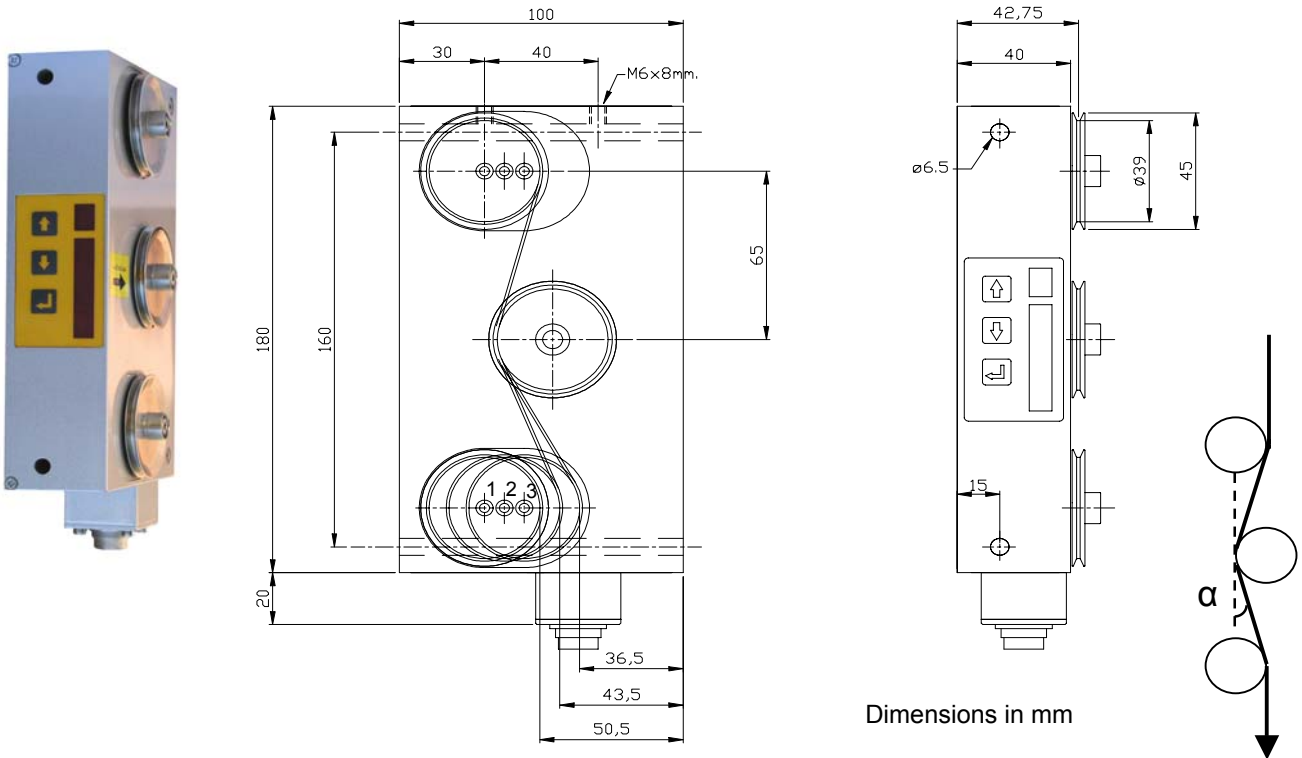
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**TENSION MEASUREMENT UNIT
 with built-in measuring amplifier**

A3VD / C

Data sheet A3VD.C / 03 / 2



The tension measurement unit type A3VD, is used during the production process to measure the tension of cables, fibres, filaments and fine wires. Easy to install and particularly strong structured, the unit can be used, in special cases, in the production lines with a speed up to 40m/s.

The unit is a three pulleys stand-alone tension measurement system, where the central pulley is assembled on a load cell, and the two auxiliary ones are placed to obtain three different values for the material wrapping angles.

The unit includes an acquisition card, with a flash-eprom fast processor, a 24 bit professional acquisition circuit, a membrane keyboard, a 5 digit display, 2 outputs + 2 digital inputs, a multi-drop RS485 serial line and an analog output.

All operating unit parameters can be selected throughout the keyboard, the display and the ASCII serial line: zero, gain (full scale in engineering unit), pass-band of the filter on the signal, minimal threshold, maximal threshold, alarm mode, analog output calibration, etc.

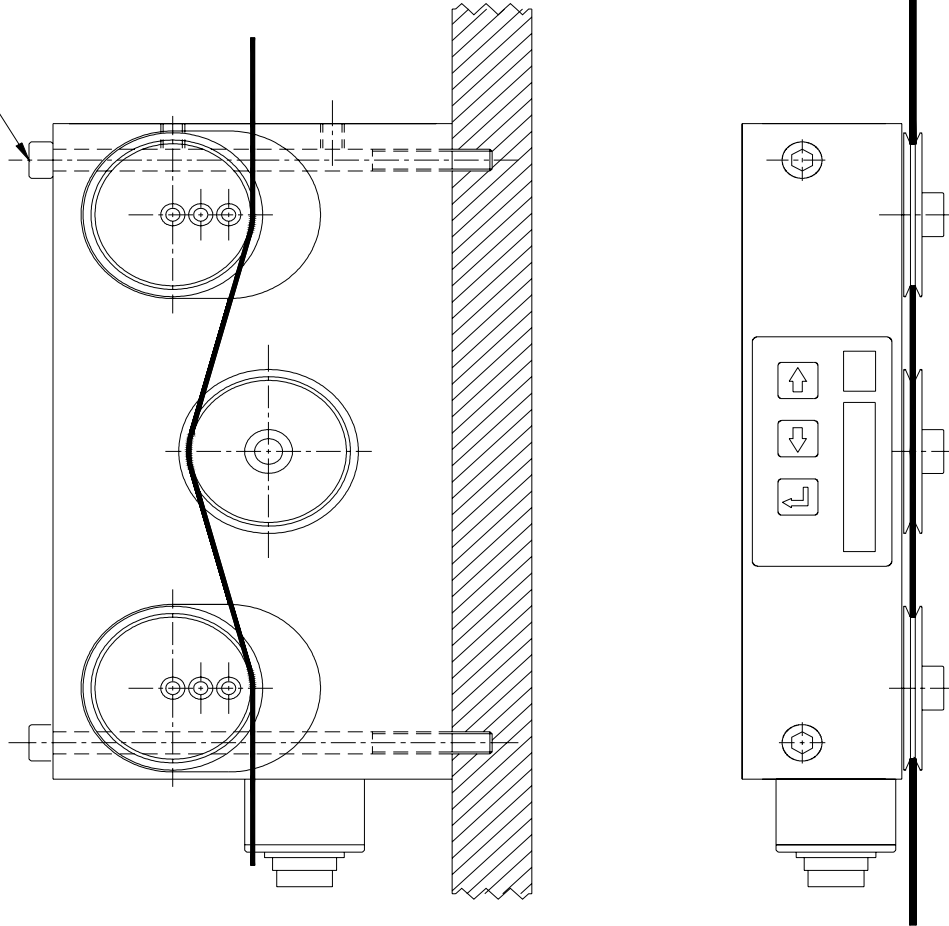
In normal operating state, the 4 digit display visualises the tension measurement, processed according to the actual parameters; this value is also reverted on the analog output.

Type	Nominal Force (F)	Wire tension with pulley in position 1 ($\alpha = 15^\circ$)	Wire tension with pulley in position 2 ($\alpha = 22^\circ$)	Wire tension with pulley in position 3 ($\alpha = 29^\circ$)
A3VD / 50/C	50 N	96.7 N	67 N	52.1 N
A3VD / 100/C	100 N	193.4 N	134 N	104.2 N

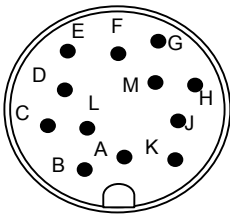
Technical Characteristics	
- Ultimate load	> 300 % F
- Accuracy	0.2% F
- Temperature effect on zero	$\pm 0,1\% F / 10^\circ C$
- Temperature range	(+10 ... +40°C)
- Nominal power supply	24 Vdc $\pm 5\%$
- Analog output	0..5 Vdc @ 10 mA or 4-20 mA
- Digital outputs for threshold alarms	2 x 24 Vdc @ 50 mA
- Digital inputs for remote zero	2 x 24 Vdc @ 5 mA
- Load cell material	Avional
- Connector "L"	KV-120 / 12
- Pulley material	Nickeled Aluminium, Ceramic Aluminium, Hardened Steel, Darlin

ASSEMBLING EXAMPLE

M6x110mm.



ELECTRICAL CONNECTION



Pin	Signal Names	Connection with 6 wires	Connection with 12 wires	Function
A	+24V	- Brown	-	- Power supply (+)
B	COM24	- White	-	- Power supply (-)
C	EARTH	-	-	- Connection to the metal box
D	AGND	- Yellow	-	- Analog output reference
E	ANA-OUT	- Green	-	- Analog output 0..5V / 4-20mA
F	IN1	-	-	- Digital input #1 - 24V
G	IN2	-	-	- Digital input #2 - 24V
H	OUT1	- Pink	-	- Digital output #1 - 24V
J	RX/TX+	-	-	- RS485 connection (+)
K	RX/TX-	-	-	- RS485 connection (-)
L	-	-	-	-
M	OUT2	- Grey	-	- Digital output #2 - 24V

ORDER CODE

