

CLAMP ASSIST

CLAMPING FORCE MEASUREMENTS DIRECTLY ON THE WORKPIECE



ALLMATIC CLAMP ASSIST MOBILE WIRELESS RECEIVER



Function:

- Acquisition of the current tensions in the fully encapsulated high pressure spindle by means of an integrated, electronic measuring system and transfer to the mobile receiving unit.
- Independent from the jaws, the measurement system is integrated in the spindle.
- Clamping force is constantly monitored during its actual tension condition.
- Storing of the clamping forces can be called up at any time through the electronics integrated in the spindle.
- Power values are transmitted via radio to the mobile receiving unit (MWR) (2.4 GHz)
- MWR simultaneously and digitally displays the clamping force for up to 4 spindles in kN
- The clamping force (reference power) default, set by the user, is indicated by a led at the MWR upon reaching the 90% mark.
- The last 200 stored clamping operations can be transferred in CSV format.

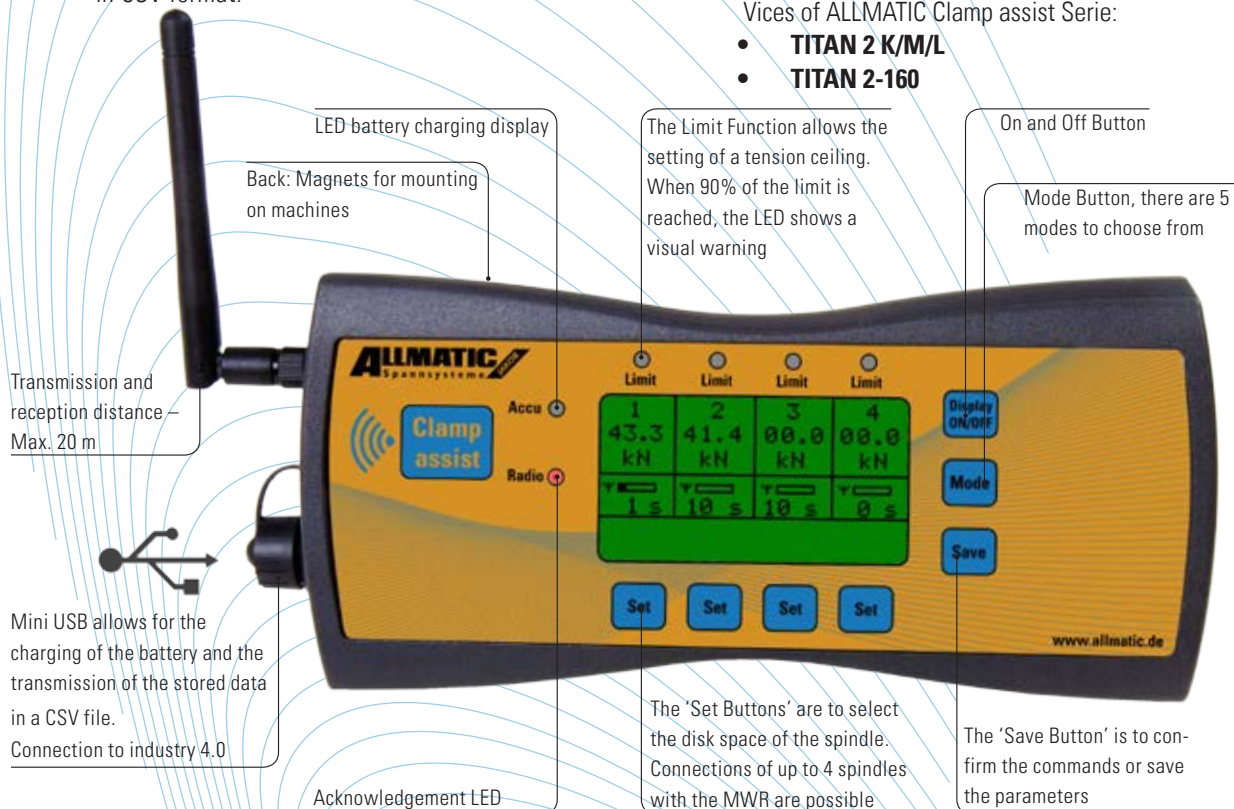
Features:

- Masses of the vices are unchanged.
- Robust MWR for use in the workshop
- The installed transmitter battery, through efficient energy management, has a life expectancy of up to 4 years (2 shifts)
- Recharging of the MWR via USB 2.0 connection is possible
- Connection to industry 4.0
- Firmware update is possible
- Operating temperatures between 10 °C - 40 °C
- Housing protection type IP65
- Transmission distance up to 20 m depending on the ambient conditions
- Weight of MWR 650 g
- Dimensions of MWR 110 x 30 x 260 mm
- Display dimensions MWR 70 x 35 mm

Compatibility:

The mobile wireless receiver can be coupled with Vices of ALLMATIC Clamp assist Serie:

- **TITAN 2 K/M/L**
- **TITAN 2-160**



Obtainable from 01 July 2016

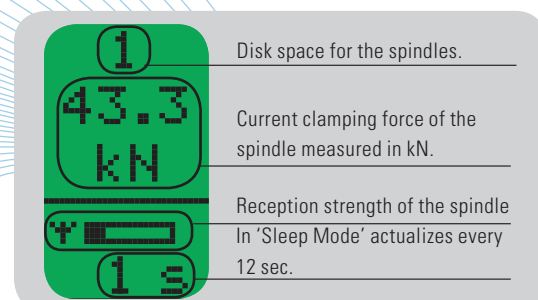
Clamp assist Mobile

Mobile Wireless Receiver (MWR):

6961001000000

Included with MWR:

- Mobile wireless receiver with USB connection cable also 3 replaceable, rechargeable AA batteries.



Mode indicators of the Mobile Wireless Receiver

Mode

1	2	3	4
43.3	00.0	00.0	00.0
kN	kN	kN	kN
▣	▣	▣	▣
1 s	10 s	10 s	0 s

Strength Indicator Mode

This mode displays the clamping force digitally and simultaneously of up to 4 spindles in kN. The clamping force is constantly monitored of the current tense condition.

00000	CA011	00000	00000
Make sure that solely 1 spindle is spanned!			
Coupling=Press		SET	
Decoupl.=Hold		SET 5s	

Coupling Mode

Up to 4 spindles can be installed in the coupling mode. The choice of storage space is via the SET buttons below the display.

1	2	3	4
-	0	-	-
	%		
▣	▣	▣	▣
0 s	0 s	0 s	0 s
o	o	o	o

File Transmission Mode

The electronic spindle stores the last 200 clamping operations. These can be transferred via the File Transmission Mode in CSV format and are evaluated through an Excel list.

1	2	3	4
00.0	36.0	00.0	00.0
kN	kN	kN	kN
▣	▣	▣	▣
0 s	33 s	0 s	0 s
LIMIT: SET + SAVE			

Limit Mode

The clamping force, pre-set by the user (reference force), is indicated by a an led on the MWR upon reaching 90%.

00000	CA011	00000	00000
0.0	3.2	0.0	0.0
U	U	U	U
▣	▣	▣	▣
0 s	23 s	0 s	0 s

Battery Mode

This mode displays the voltage of the battery. The charging status of the batteries installed in the spindles can be checked at any time.

File Transmission

Connecting the Mobile Wireless Receiver with a PC:

The MRU is recognized as a removable disk. The generated values are issued in a CSV file. It can be individually evaluated and personalized for personal statistics.

The following evaluations are possible:

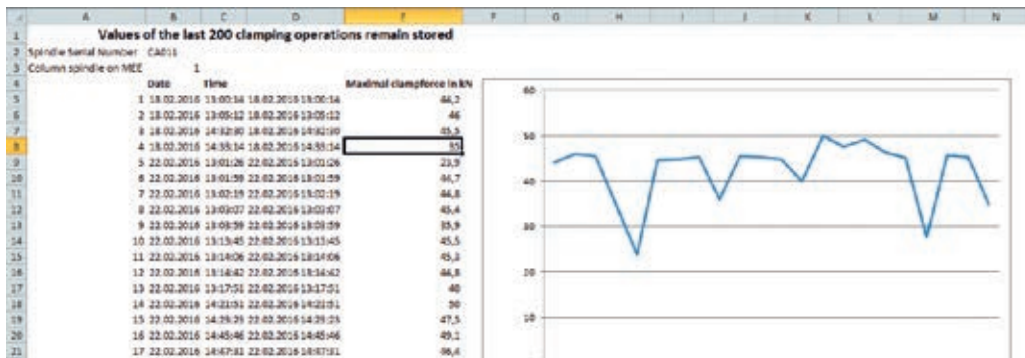
- **Statistics**

Number of clamping operations and maximum values

	A	B	C	D	E
1	Statistical data about the entire life cycle of the spindle				
2	Spindle Serial Number	CA002			
3	Column spindle on MEE	1			
4		Date	Time		
5	Maximum value since the beginning of the recording	48,7	25.01.2016	09:53:11	
6	Number of clamping operations with a force > 5kN	12			
7	Number of clamping operations with a force > 55kN	0			
8					
9					
10					

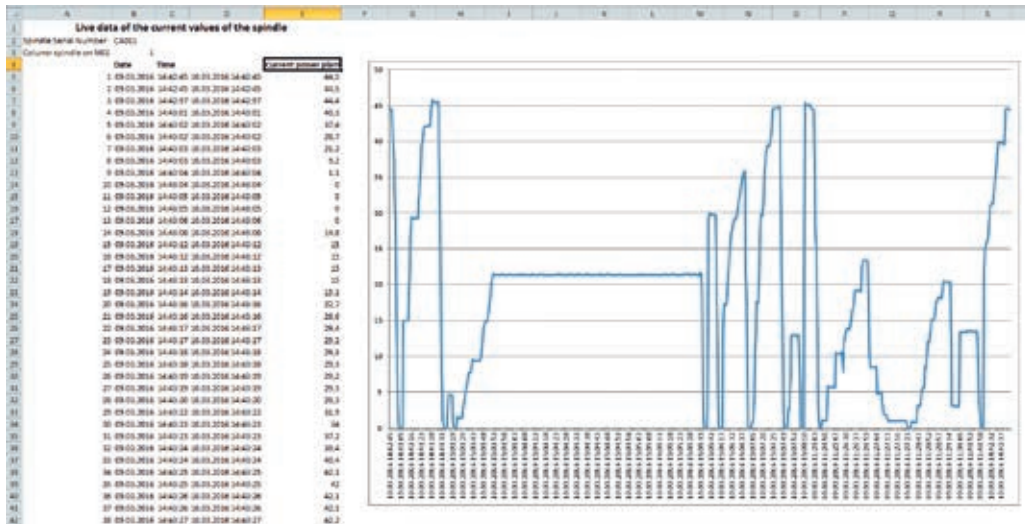
- **Clamping Report**

Values of the last 200 clamping operations remain stored



- **Live**

Recording of the current clamping pressures. In a time window of 5 minutes with 2 measurements per second (» 600 values)



TITAN 2 Electronic Spindle Clamp assist



Operated, as usual via a torque wrench.

Transmission Frequency:

- a) Clamping force changes » 2 Hz (2x per Second)
- b) Constant clamping force » 0,2 Hz (every 12 Seconds)



Fully enclosed high-pressure spindle (IP67)

High pressure spindle provided with measuring sensors

User-friendly energy management: battery life span approx. 4 years (in the 2-shift operation)

Insensitive against vibrations and coolant

Electronics stores the clamping cycles or clamping force changes. There is data in the spindle available to be transferred at any time.

Maximum transmission and reception distance 20 m



ALLMATIC CLAMP ASSIST



Function:

- Horizontal and vertical use - therefore suitable for vertical and horizontal CNC milling machines
- Conventional clamping, grip clamping and low tension clamping possible.
- Titanium 2 K - ideal for use on 5-axis machining centers
- Clamping of raw, thermal and saw cut parts by penetrating hardened and interchangeable grip elements into the work piece.
- The support jaws safely and cost effectively allow raw part, different types of materials and complex geometries to be handled.

Product Features:

- To monitor and optimize milling processes
- High flexibility - the modular clamping system combines almost all possibilities of our tried and tested models
- Titanium 2 M - finely polished sides so that all sides can be used
- Titanium 2 K and M can be vertically used
- Force translated high-pressure spindle. No let-up of tension
- Increased power stroke for safe clamping of raw parts
- Loss of 8 mm clamping edge in low tension, 3 mm with GRIPP
- Tightening with torque wrench - max 30 nm. This can also work in unfavourable positioning over a table



Precise grooves for mounting the clamping jaws for a range of products

Induction hardened and grounded guide ways

Bending stiffness of spindle nut

Stable body of GGG 60

Precise guidance of the spindle nut

For positioning of the mobile jaw with heavy work pieces (SW 22). Separated away from the power amplifier


Clamping shoulder for vertical use (TITAN 2 K & M)

M8 thread for work piece stoppage.

Type K: precise alignment groove (transverse) and one position hole in the sole area for optimal orientation on the machine table

Type M & L: precision alignment slots (longitudinal/transverse) in the base surface of the soles for optimum alignment on the machine table

Exit hole for coolant and chips

 Optional: Mounting holes for zeropoint clamping systems are possible

Order No. **Clamp assist** Jaw width 125:

TITAN 2 K: 6921738000066

TITAN 2 M: 6921838000766

TITAN 2 L: 6921838000066

Order No. **Clamp assist** Jaw width 160:

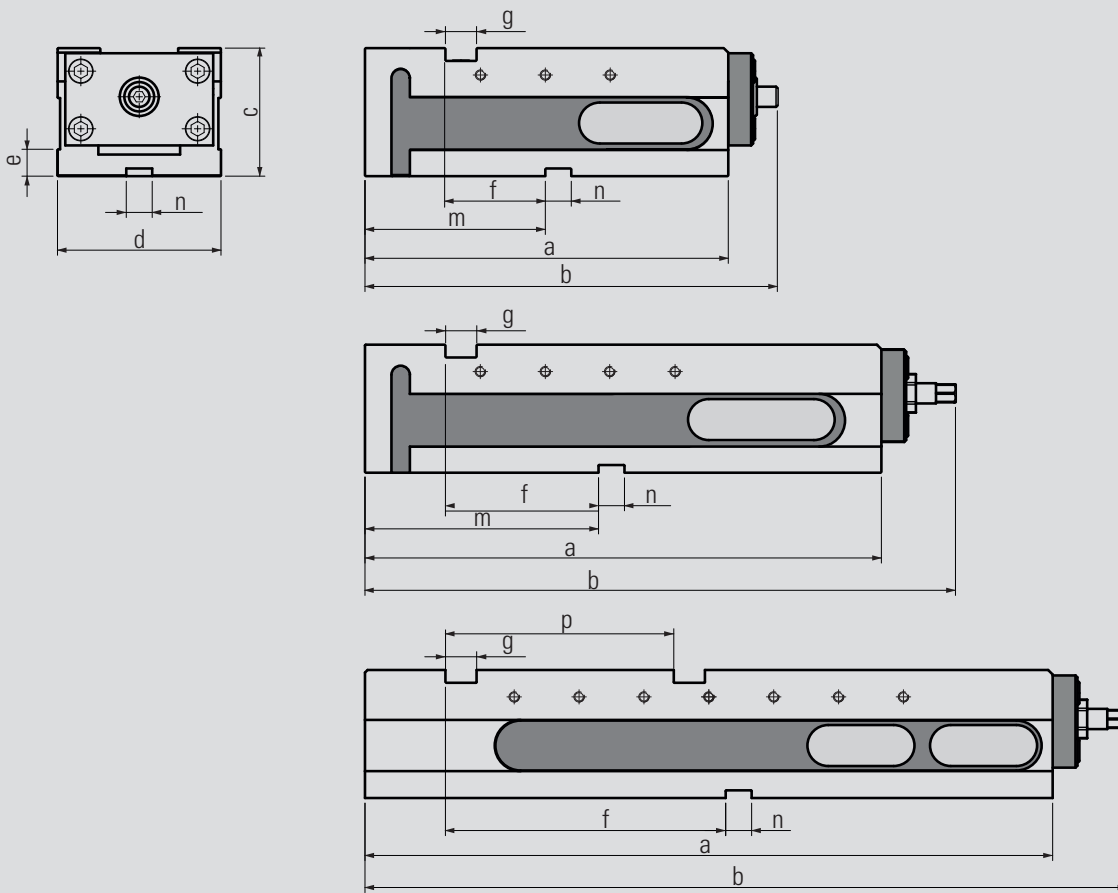
TITAN 2-160: 6921848000066

Scope of supply:

- 1 high-pressure vice without jaws
- 1 set of side clamps
- 3 socket screw wrenches
- Hexagonal insert for torque wrench 3/8"

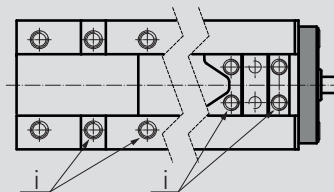
Clamping jaws must be ordered separately.

You find an overview of the jaws, as well as other accessories at www.allmatic.de



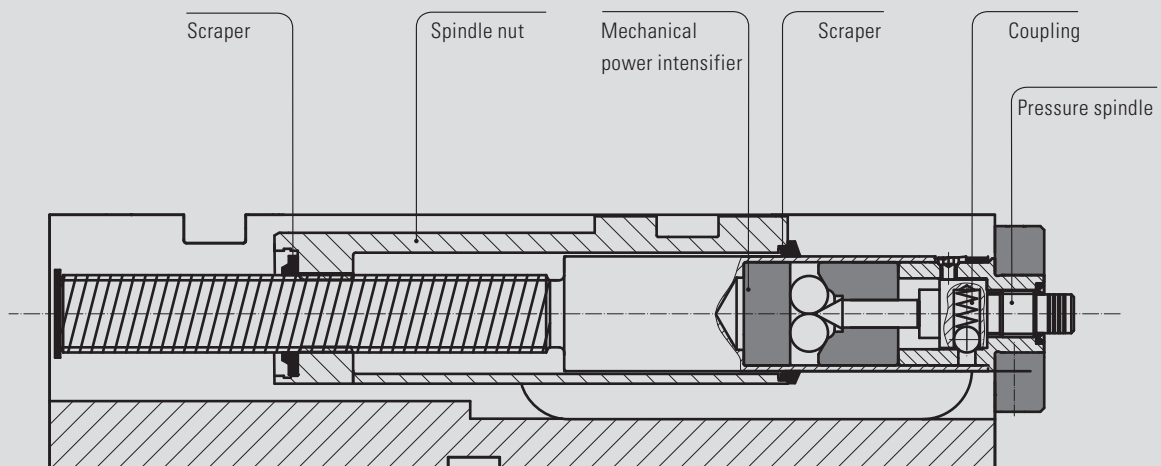
Technische Daten

TITAN 2	K	M	L	160	
Jaw width	125			160	
Dimensions / tolerances in mm	a	280	398	530	530
	b	318	455	587	587
	c	100	100	100	115
	d	126	126	126	164
	e	21	21	21	21
	f	77	118	216	164
	g	24	24	24	30
	m	139	180	-	234
	i	M 12	M12	M12	M16
	n	20	20	20	20
	p	-	-	176	72



Jaw width	125 / 160
Max. torque in Nm	30
Max. clamping force in kN	40
Weight in kg TITAN 2 K	22
Weight in kg TITAN 2 M	30
Weight in kg TITAN 2 L	38
Weight in kg TITAN 2-160	68

Spindle cross-section





**Clamp
assist**



www.allmatic.de

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