

MT Focus 6000

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Control and drive unit

Valid from Serial No.
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Product Instructions

MT Focus 6000

8432085100



WARNING

Read all safety warnings and instructions

Failure to follow the safety warnings and instructions may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference

Atlas Copco

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Product information

General information

WARNING Risk of Property Damage or Severe Injury

Ensure that you read, understand and follow all instructions before operating the tool. Failure to follow all the instructions may result in electric shock, fire, property damage and/or severe bodily injury.

- ▶ Read all safety Information delivered together with the different parts of the system.
- ▶ Read all product Instructions for installation, operation and maintenance of the different parts of the system.
- ▶ Read all locally legislated safety regulations with regard to the system and parts thereof.
- ▶ Save all safety information and instructions for future reference.

Safety signal words

The safety signal words Danger, Warning, Caution, and Notice have the following meanings:

DANGER	DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.
WARNING	WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.
CAUTION	CAUTION, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
NOTICE	NOTICE is used to address practices not related to personal injury.

Warranty

- Product warranty will expire 12 months after the product is first taken into use, but will in any case expire at the latest 13 months after delivery.
- Normal wear and tear on parts is not included within the warranty.
 - Normal wear and tear is that which requires a part change or other adjustment/overhaul during standard tools maintenance typical for that period (expressed in time, operation hours or otherwise).
- The product warranty relies on the correct use, maintenance, and repair of the tool and its component parts.
- Damage to parts that occurs as a result of inadequate maintenance or performed by parties other than Atlas Copco or their Certified Service Partners during the warranty period is not covered by the warranty.
- To avoid damage or destruction of tool parts, service the tool according to the recommended maintenance schedules and follow the correct instructions.
- Warranty repairs are only performed in Atlas Copco workshops or by Certified Service Partners.

Atlas Copco offers extended warranty and state of the art preventive maintenance through its ToolCover contracts. For further information contact your local Service representative.

For electrical motors:

- Warranty will only apply when the electric motor has not been opened.

ServAid

ServAid is a portal that contains the most up-to-date product information such as:

- Safety Information
- Installation, Operation and Service Instructions
- Exploded views

It is also possible to order spare parts, service tools and accessories for the product of your choice directly from ServAid. It is continuously updated with information about new and redesigned products.

If translations exist, you can view content in the language of your choice. ServAid offers advanced search functionality of our entire product range and can also be used to display information about obsolete products.

ServAid is available on DVD and on the website:

<https://servaid.atlascopco.com>

For further information contact your Atlas Copco sales representative or e-mail us at:

servaid.support@se.atlascopco.com

Website

Log in to Atlas Copco: www.atlascopco.com.

You can find information concerning our products, accessories, spare parts and published matters on our website.

Safety Data Sheets MSDS/SDS

The safety data sheets describes chemical products sold by Atlas Copco.

For more information, consult the website:

www.atlascopco.com

Choose **Products - Safety Data Sheets**, and follow the instructions on the page.

Country of origin

Please refer to the information on the product label.

Dimensional drawings

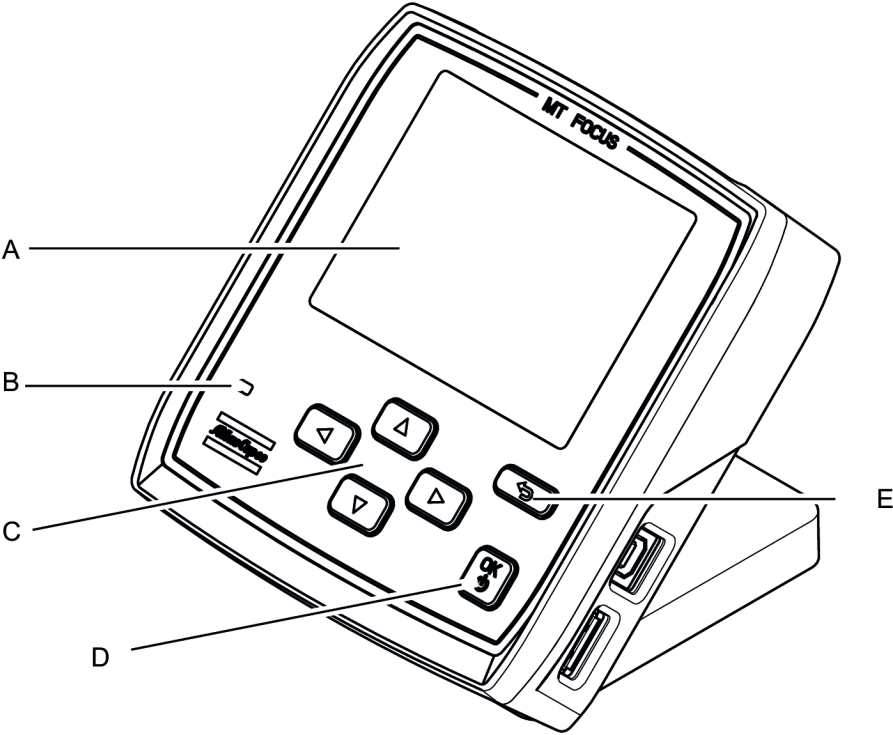
For information about the dimensions of a product, see the Dimensional drawings archive:

<http://webbox.atlascopco.com/webbox/dimdrw>

Overview

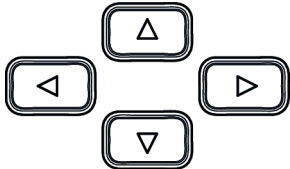


MTF 6000 navigation

The front panel contains a display and a keypad.



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A	Display
B	Indicator light
C	Arrow buttons
D	OK button
E	Back button

Button	Name	Description
	Arrow buttons	Use the arrow buttons to navigate in the menus on the display. Use the arrow buttons to set numerical values on the display.
	Back button	Use the back button to move back between menus. In some cases you can use the back button to cancel a selection.
	OK button	Press the OK button to confirm a selection. Hold the OK button to open the login/reboot menu.

On/off switch on power supply unit

The on/off switch to the controller is located on the external power supply unit (PSU).

 The on/off switch on the PSU must be easy to access.

Compatible tools

MT Focus 6000 is compatible with the following tools:

- ETD M xxx V2
- QMC 21
- QMC 41

 The tool must be calibrated for running with MT Focus 6000.

Normal environmental conditions

This product is designed to be safe under the following conditions:

- Indoor use
- Altitude up to 2 000 m
- Temperature 5 °C to 40 °C
- Maximum relative humidity 80 % for temperatures up to 31 °C decreasing linearly to 50 % relative humidity at 40 °C
- Mains supply voltage fluctuations up to ± 10 % of the nominal voltage
- Transient overvoltages up to the levels of overvoltage category II
- Temporary overvoltages occurring on the mains supply
- Pollution degree 2

Service overview

Service recommendations

Preventive maintenance is recommended at regular intervals. See the detailed information on preventive maintenance. If the product is not working properly, take it out of service and inspect it.

If no detailed information about preventive maintenance is included, follow these general guidelines:

- Clean appropriate parts accurately
- Replace any defective or worn parts

Installation

Installation requirements

Connecting accessories

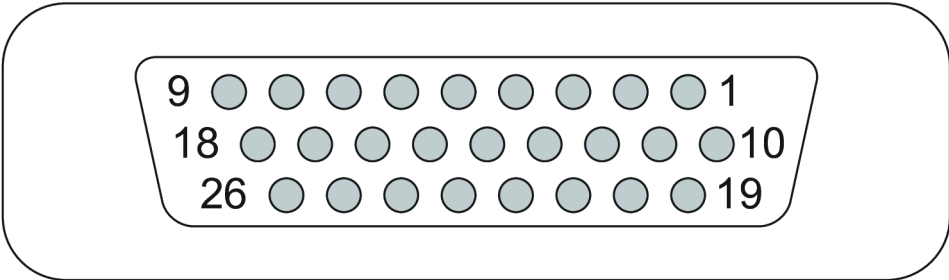
- ⓘ If the sum of all +24V IO loads exceeds 400 mA - use an external +24 V source.
- ⓘ The internal 24 V supply can be loaded with max 1300 mA. This supply is used for both the vacuum pump and the +24V IO.

DIGITAL I/O

The digital I/O is a configurable 26-pole D-sub socket connector for digital input and output signals.
Use a 26-pole D-sub pin plug.

Voltage range	11-30 VDC (logic 1) 0-5 VDC (logic 0)
Input resistance	>5 kΩ
Output resistance	23-35 Ω
Output current protection	120 mA max. peak/continuous current, over current protected.

- ⓘ If the max. current is exceeded, the output voltage will switch off. This can be resolved by switching the output off and on again.



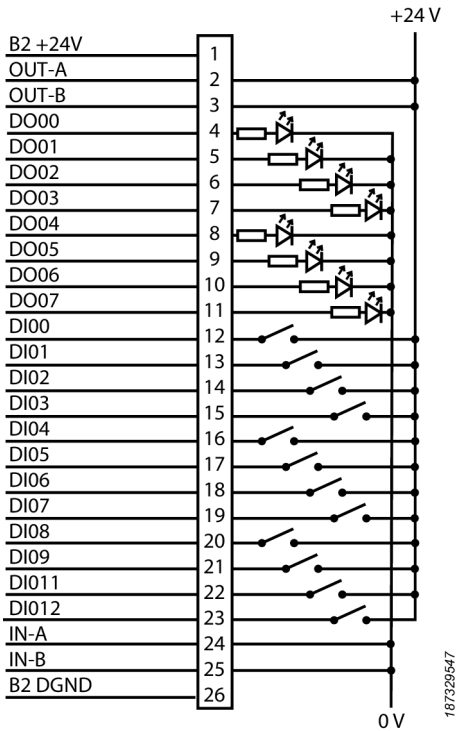
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Pin	I/O
1	+24V IO
2	DO COMMON 0-3
3	DO COMMON 4-7
4	DO 0
5	DO 1
6	DO 2
7	DO 3
8	DO 4
9	DO 5
10	DO 6
11	DO 7
12	DI 0
13	DI 1
14	DI 2

Pin	I/O
15	DI 3
16	DI 4
17	DI 5
18	DI 6
19	DI 7
20	DI 8
21	DI 9
22	DI 10
23	DI 11
24	DI COMMON 0-5
25	DI COMMON 6-11
26	GND

- ❗ Pulse length must be minimum 20 ms.
- ❗ All inputs are opto isolated.
- ❗ Interface connection can be connected in **PNP mode** (source type, positive logic), or in **NPN mode** (sink type, negative logic).
- ❗ PNP and NPN mode can, if required, be mixed bank wise (for example DO COMMON 0-3 PNP and DO COMMON 4-7 NPN).

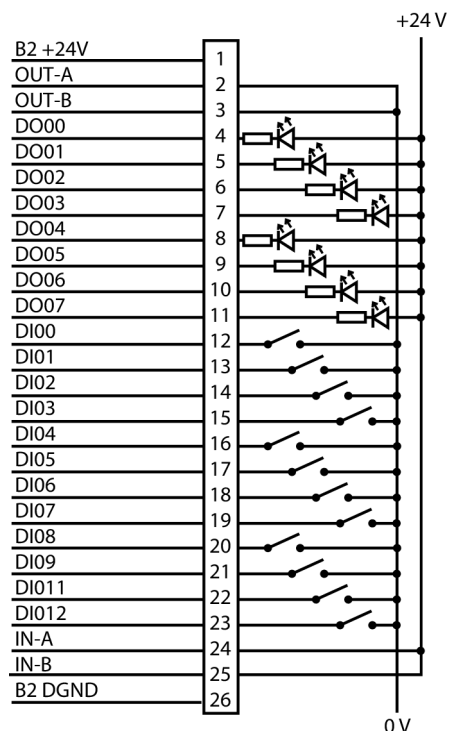
PNP mode



I/O	Description
+24V IO	+24V output

I/O	Description
DO COMMON 0-3	Connect to +24V IO or external +24 V (not at the same time)
DO COMMON 4-7	Connect to +24V IO or external +24 V (not at the same time)
DO 0-7	The outputs will be connected to the external +24 V when activated.
DI 0-11	The inputs will be activated by a +24 V signal applied to the input pin.
DI COMMON 0-5	Connect to GND or external 0 V.
DI COMMON 6-11	Connect to GND or external 0 V.
GND	Ground

NPN mode



I/O	Description
+24V IO	+24V output
DO COMMON 0-3	Connect to GND or external 0 V.
DO COMMON 4-7	Connect to GND or external 0 V.
DO 0-7	The outputs will be connected to the external 0 V when activated.
DI 0-11	The inputs will be activated by a 0 V signal applied to the input pin.

I/O	Description
DI COMMON 0-5	Connect to +24V IO or external +24V (not at the same time)
DI COMMON 6-11	Connect to +24V IO or external +24V (not at the same time)
GND	Ground

USB device

Type B receptacle.

This connection is used when the controller is connected to one computer.

USB host

Type A receptacle.

Supports:


- Full speed, 12 Mbps
- Low speed, 1.5 Mbps

If you connect an accessory in this connection the controller will be the host and control the accessory.

Connect a USB hub

It is possible to connect an USB hub with up to 4 ports to the **USB host** port. The total max current of the connected devices is 900 mA. If more current is needed, connect an external power supply.

The USB hub can have two scanners connected at the same time if their total max current is less than 900mA.

 Only scan with one scanner at the time when two scanners are connected.

Do not connect more than one USB flash drive, since only one USB flash drive can be detected by the MTF 6000.

Ethernet

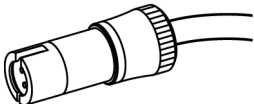
RJ 45 connector.

The ethernet connection is used to connect the controller to the factory network.

VP - Vacuum pump output

5-pole socket connector for the connection with Atlas Copco Vacuum pump.

Use a 5-pole pin plug from the Binder 719 Series.



Pin	Signal	Description
1	+24V Pump	Internal +24V
2	Clean	Digital output
3	Pump on	Digital output
4	Pressure value	Analogue input

Pin	Signal	Description
5	GND	Ground

Fieldbus

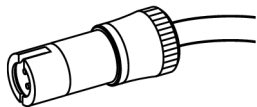
Not implemented yet.

COM

3-pole socket connector for the serial interface.

COM port settings: 115200 Baud, 8 Data bits, 1 Stop bit, No parity, No hand-shake.

Use a 3-pole pin plug from the Binder 719 Series. Complies with RS-232.



Pin	Signal	Description
1	TxD	Transmitted data
2	GND	Data ground
3	RxD	Received data

I/O - BUS

Not implemented yet.

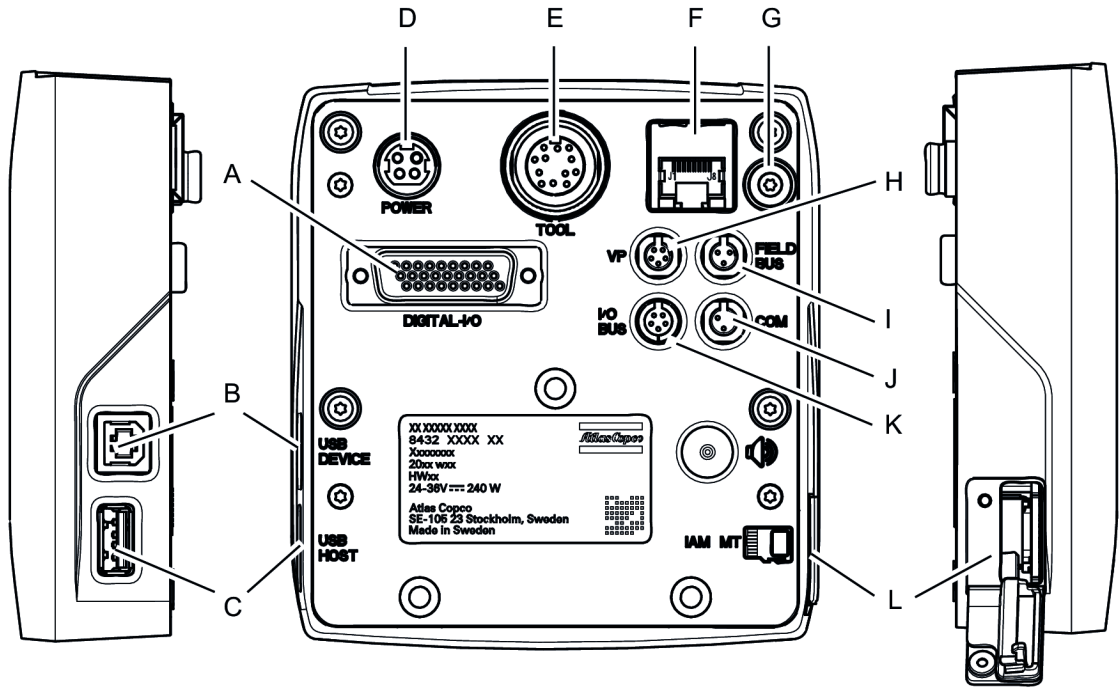
IAM MT

The IAM MT (Intelligent Application Module MicroTorque) is a memory card for application software and result storage.

The IAM MT may store:

- Necessary software for the MTF 6000
- Configuration data
- Result database
- Trace database
- License and MAC-address.

Controller connectors



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A	DIGITAL I/O
B	USB DEVICE
C	USB HOST
D	POWER
E	TOOL
F	Ethernet
G	Connection for ESD protective wrist strap
H	VP, Vacuum pump
I	FIELD BUS
J	COM
K	I/O BUS
L	IAM MT

Built-in battery

Some functions in the controller, such as the built-in clock, are powered by a built-in battery. The charging time is 5 hours and the function is maintained for 100 days if not recharged.

Operation

Ergonomic guidelines

Consider your workstation as you read through this list of general ergonomic guidelines and see if you can identify areas for improvement in posture, component placement, or work environment.

- Take frequent breaks and change work positions frequently.
- Adapt the workstation area to your needs and the work task.
 - Adjust for convenient reach range by determining where parts or tools should be located to avoid static load.
 - Use workstation equipment such as tables and chairs appropriate for the work task.
- Avoid work positions above shoulder level or with static holding during assembly operations.
 - When working above shoulder level, reduce the load on the static muscles by reducing the weight of the tool, using for example torque arms, hose reels or weight balancers. You can also reduce the load on the static muscles by holding the tool close to the body.
 - Make sure to take frequent breaks.
 - Avoid extreme arm or wrist postures, particularly for operations requiring a degree of force.
- Adjust for convenient field of vision by minimizing movement of the eyes and head during the work task.
- Use the appropriate lighting for the work task.
- Select the appropriate tool for the work task.
- Use ear protection equipment in noisy environments.
- Use high-quality inserted tools or consumables to minimize exposure to excessive levels of vibration.
- Minimize exposure to reaction forces.
 - When cutting:

A cut-off wheel can get stuck if the wheel is either bent or if it is not guided properly. Make sure to use the correct flanges for cut-off wheels and avoid bending the wheel during cut-off operation.
 - When drilling:

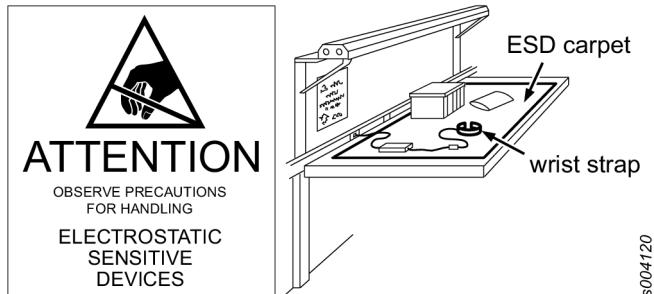
The drill might stall when the drill bit breaks through. Make sure you use support handles if the stall torque is too high. The safety standard ISO11148 part 3 recommends using something to absorb the reaction torque above 10 Nm for pistol grip tools and 4 Nm for straight tools.
 - When using direct-driven screw or nutrunners:

Reaction forces depend on tool setting and joint characteristics. The ability to bear reaction forces depends on the operator's strength and posture. Adapt the torque setting to the operator's strength and posture and use a torque arm or reaction bar if the torque is too high.
- Use dust extraction system or mouth protection mask in dusty environments.

Service

Preventing ESD problems

The components inside the tool and controller are sensitive to electrostatic discharge. To avoid future malfunction, make sure that service and maintenance is carried out in an ESD approved work environment. The figure below shows an example of an appropriate service work station.



Maintenance instructions

Service recommendations

Preventive maintenance is recommended at regular intervals. See the detailed information on preventive maintenance. If the product is not working properly, take it out of service and inspect it.

If no detailed information about preventive maintenance is included, follow these general guidelines:

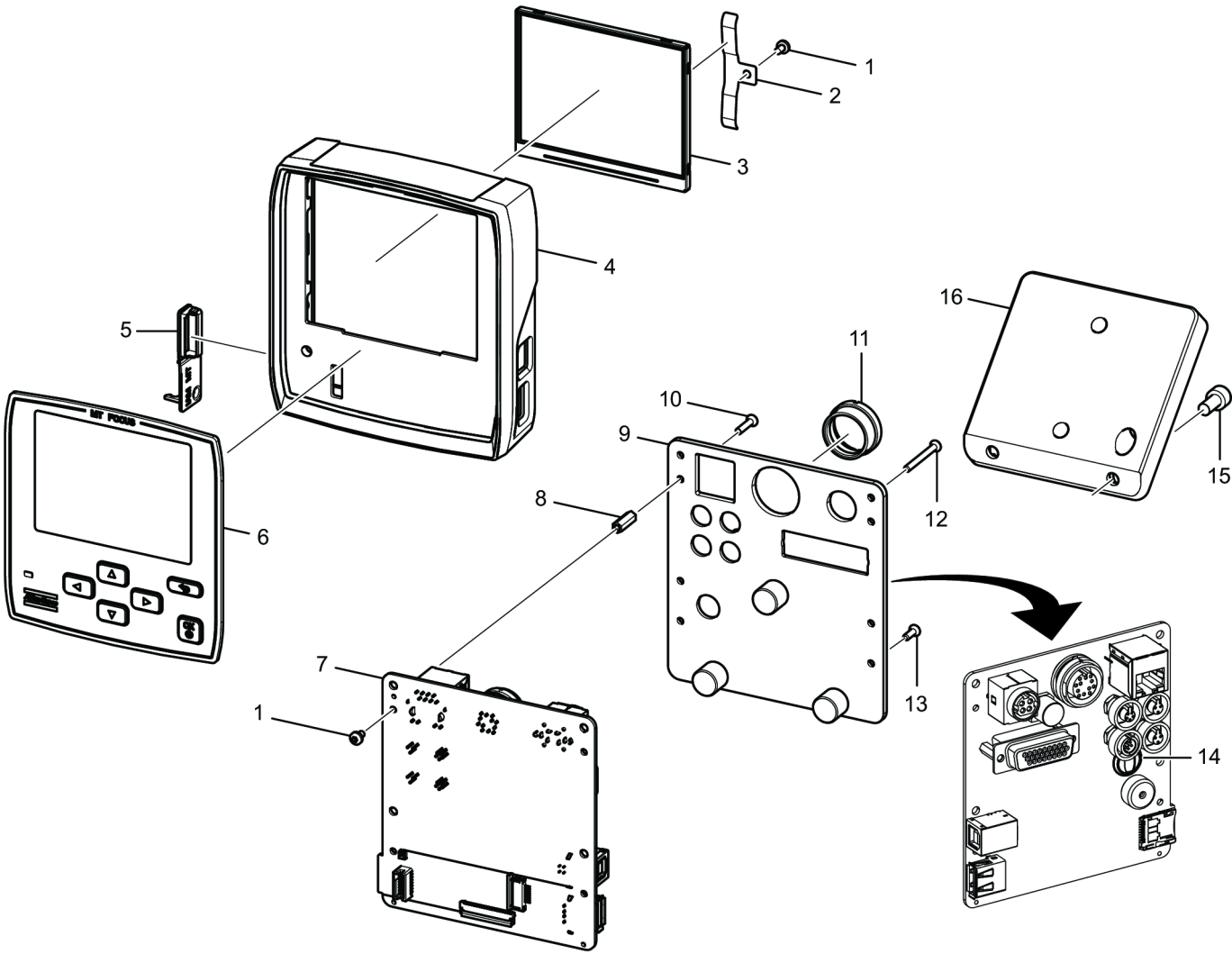
- Clean appropriate parts accurately
- Replace any defective or worn parts

Recycling

Recycling instruction

When a product has served its purpose it has to be recycled properly. Dismantle the product and recycle the components in accordance with local legislation. Batteries shall be taken care of by your national battery recovery organization.

Recycling information



	Part	Recycle as
1	Screws	Steel
2	Clamps	Stainless steel
3	Display	WEEE
4	Housing	Aluminum
5	IAM MT lid	Polypropylene
6	Front panel	WEEE
7	Main board	WEEE
8	Hexagon spacing nut (4 pcs)	Brass
9	Back plate	Stainless steel
10	Screw	Stainless steel

	Part	Recycle as
11	Connector sleeve	Stainless steel
12	Screw	Stainless steel
13	Screw	Stainless steel
14	LiIon battery	WEEE
15	Screws	Steel
16	Foot weight	Zink

Original instructions



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