



# MI 3360 OmegaPAT XA Main features

Measuring  
instruments  
and testers

# General information

MI 3360 OmegaPAT XA is one of the few testers on the market that covers several different portable appliance testing applications, such as:

- Basic & demanding PAT testing application,
- Active 3-phase & arc welding equipment testing application,
- Medical equipment testing application.



## Basic PAT testing

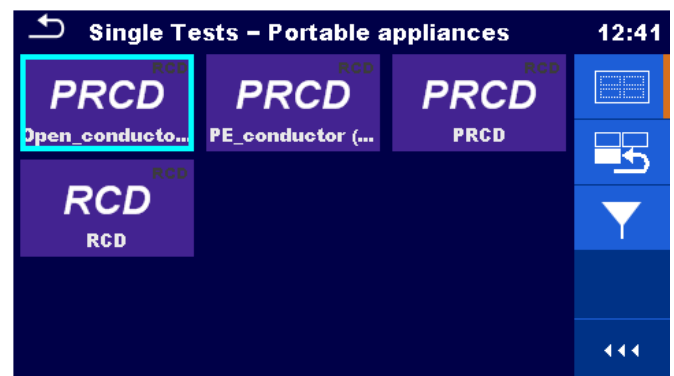
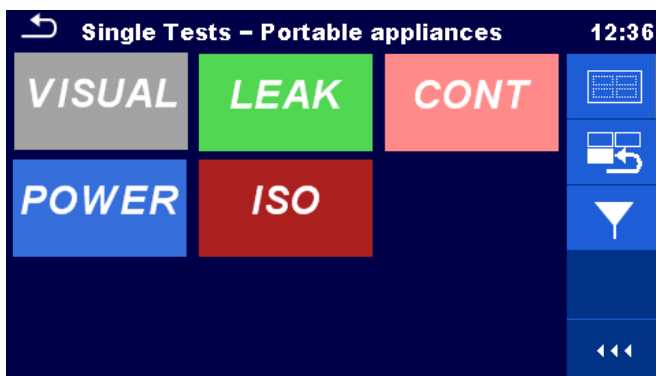
When we are speaking about basic PAT testing, we have in mind portable appliances, such as electrical tools, extension leads, household appliances, PCs and/or other similar equipment. For this type of equipment we usually use the following tests that can be found in more or less all PAT testers on the market:

- Visual inspection,
- Earth bond test (200 mA or in higher models 10 A & 25 A test current),
- Insulation test,
- Leakage test (substitute, touch, differential and PE leakage),
- Functional test.

## Demanding PAT testing

On the other hand when we are speaking about demanding PAT testing under which we classify different types of portable RCDs, such as (3-pole, S-type and K/Di (Varistor)-type) we need to have special built-in functions to cover complete testing of such equipment. Metrel has specialized for this type of equipment testing by developing the following special functions:

- (P-RCD) open conductor test,
- (P-RCD) PE conductor test,
- (P-RCD) probe test.



## P-RCD - AUTO SEQUENCE®

The combinations of this different functions are built into several AUTO SEQUENCE®s which guide the user through complete and professional testing of P-RCD protected extension leads or portable switchgears. This functionality makes MI 3360 OmegaPAT XA a leading tester in this application.



## 3-Phase appliances

Combination of this functions enable the user to test 3-phase appliances with current consumption up to 40 A, plus thorough testing of 3-phase P-RCD protected extension leads or switchgears.

- 3-phase leakage test,
- 3-phase power test,
- 3-phase polarity test,
- 3-phase P-RCD test.

Testing of 3-phase appliances is also considered as more demanding than PAT testing, because special accessories are usually needed to perform such testing. For this type of appliances Metrel has developed two types of adapters which work in combination with MI 3360 OmegaPAT XA, these adapters are called active three phase adapters (model numbers A 1322 & A 1422). Both adapters support the following tests:



## ARC / Welding equipment IEC/EN 60974-4

In comparison with A 1322 Active 3-phase adapter, the A 1422 Active 3-phase adapter supports additional tests such as:

- Primary welding leakage,
- Welding leakage,
- Welding insulation,
- No load voltage.

This functions enable the testing of arc/welding equipment in accordance with the international standard IEC/EN 60974-4.



# Medical equipment IEC/EN 62353

Medical equipment testing is another sub-field of PAT testing, but one that requires special care since the tested devices are in direct contact with medical staff and patients, which translates to a heightened probability of electric shock. There are numerous types of medical equipment that needs to be regularly inspected and tested to maintain its reliability. Metrel has developed a special version of MI 3360 OmegaPAT XA (model M), which covers the international standard IEC/EN 62353 for medical electrical equipment testing. This tester supports the following special functions:

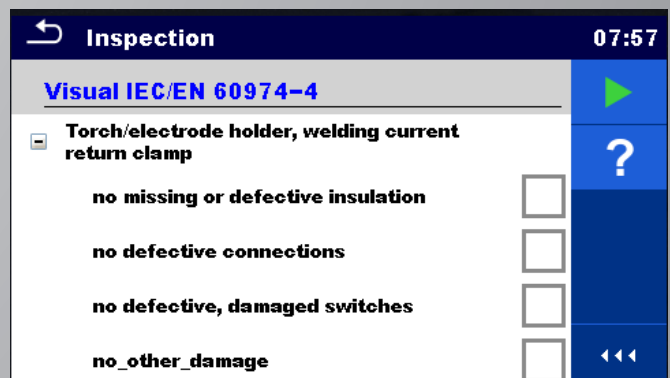
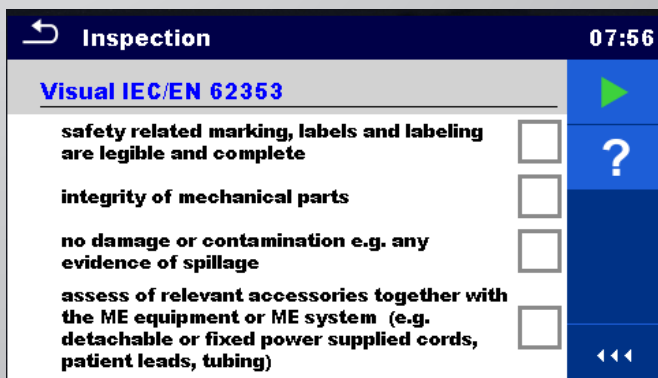
- Electrical equipment leakage (alternative, direct & differential method),
- Applied part leakage (alternative & direct method),
- Touch leakage for medical equipment.



Each MI 3360 M OmegaPAT XA instrument comes with pre-prepared AUTO SEQUENCE®s, with predefined test procedures and limits, for easy and fast testing in the field.

# Custom Visual & Functional inspections

Due to the fact that technicians and engineers which perform PAT testing also have to check, report and certify different type of non-electric equipment such as fire extinguishers, emergency lights, smoke sensors, etc. Metrel has implemented (in MESM PC software) a special functionality called “Custom Visual & Functional inspections”. This functionality enables the user to create custom list of inspections which can be uploaded to tester and later used for professional certification.

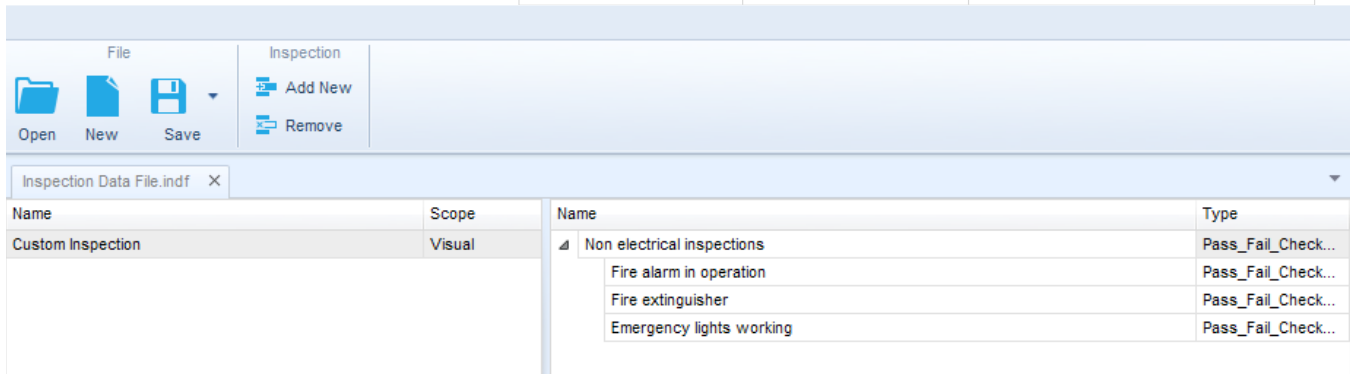


Customer No.: 121212    Inspect. rec. No.: 8542524    Order No.: 05-2017



## ELECTRICAL EQUIPMENT TEST REPORT

<b>LOCATION:</b>	<b>TEST DATE:</b> 15/06/2016	<b>SERIAL:</b>
Metrel	<b>RETEST DATE:</b> 15/06/2017	16410005
<b>NAME:</b>	<b>COMMENT:</b>	<b>USER:</b>
_0000	<b>TEST SITE:</b> Demo room	Blaz
PE_ISO_EL(Dir)_AP(Dir)_AP_BF - Visual Inspections		
<b>Visual IEC/EN 62353</b>		<b>Empty</b>
safety related marking, labels and labeling are legible and complete		Empty
integrity of mechanical parts		Empty
no damage or contamination e.g. any evidence of spillage		Empty
assess of relevant accessories together with the ME equipment or ME system (e.g. detachable or fixed power supplied cords, patient leads, tubing)		Empty
the required documentation is available and reflects the current revision and/or all fuses accessible from the outside are complying with the data given by the manufacturer		Empty
PE_ISO_EL(Dir)_AP(Dir)_AP_BF - Single tests		
<b>Results:</b>	<b>Limits:</b>	<b>Parameters:</b> <b>Status:</b>
<b>Protective Earth Resistance</b>		
R: 0.13 Ω	R: 0.3 Ω	DateTime: 06/04/2017 08:51:22 Output: P/S - PE I out: 0.2 A Duration: 5 s




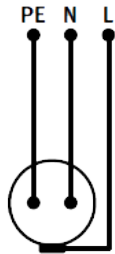



























# Complete RCD & P-RCD testing

MI 3360 OmegaPAT XA is a unique tester on the market, providing complete solutions for testing of different types of RCDs and P-RCDs. Residual-current device or shorter RCD is a device that instantly breaks an electric circuit to prevent serious harm from an ongoing electric shock. To be sure that the RCD will unconditionally trip when error occurs, it needs to be tested periodically. MI 3360 OmegaPAT XA supports testing of different types and sizes of RCDs:

- Type A, AC, B, B+, F,
- Nominal currents 10, 15, 30 + with A 1322 / A 1422 Active 3-phase adapters also 100 & 300 mA RCDs.

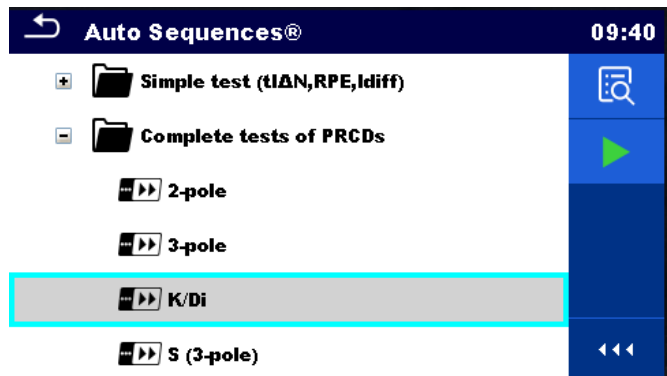
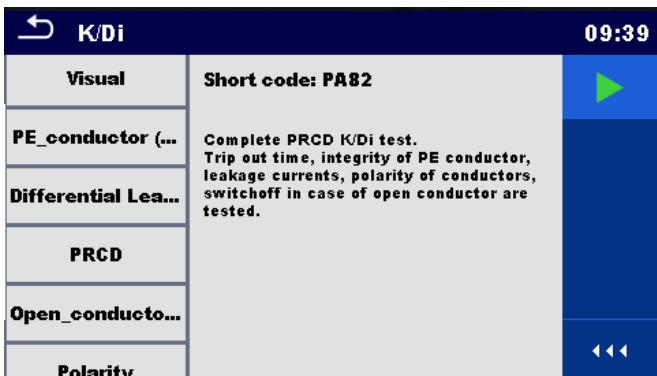
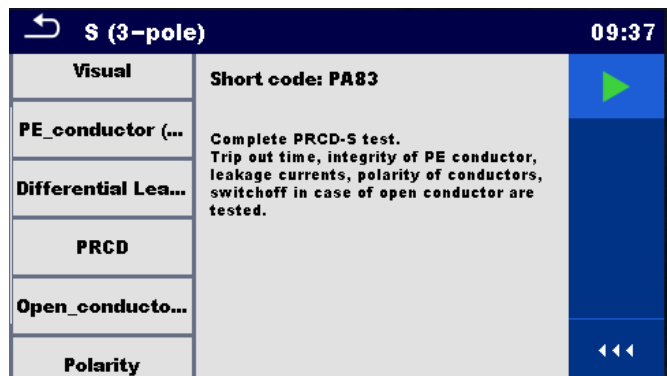
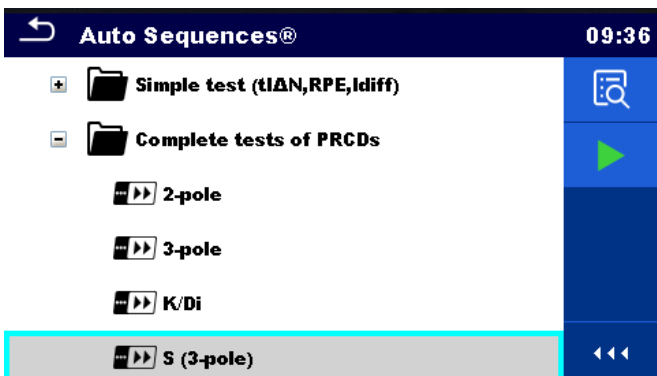
		Break outer conductor	PE recognition	Break PEN conductor	Protective conductor monitoring	Maintaining the protective conductors when exposed to external voltage
						
		N interrupt	PE interrupt	PEN interrupt	PE and L interchanged	
Leakage circuit breaker	RCD (FI)					
Portable protective device	OVS 2-pol. PRCD					
Portable protective device	OVS 3-pol. PRCD					
	PRCD-S					
						
		Full Protection		Possible secondary accidents		Mortal Danger

# Complete RCD & P-RCD testing

The tester enables single or automatic mode of P-RCD testing.

- 3-pole P-RCD,
- K/Di (varistor) P-RCD,
- S (3 pole) P-RCD.

Primary safety is ensured with RCD built into main installation, but there are environments where extra protection must be ensured due to rough conditions. This are typically construction sites and locations of quick intervention. Typical environment for quick intervention is a fire accident, where the firemen don't have the time to check whether the installation to which they will connect their electric tools is safe or not, therefore they need special portable RCDs which have, in comparison to classical ones, additional safety and need also additional safety testing. This P-RCDs are normally mounted on extension leads and are following types:



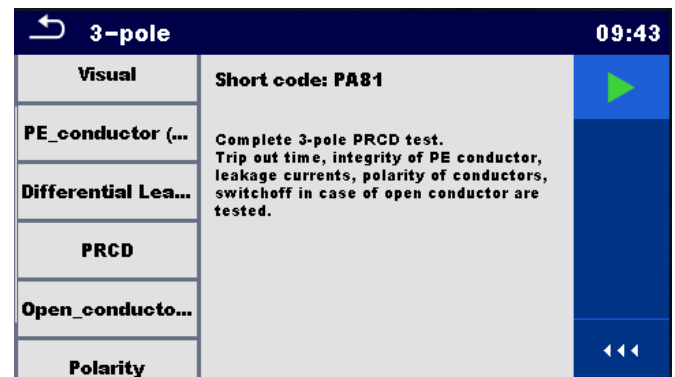
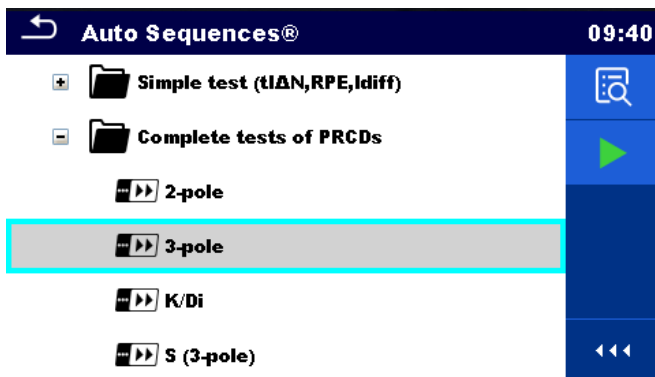
# Complete RCD & P-RCD testing

MI 3360 OmegaPAT XA is covering a complete safety testing of these special safety devices:

- (P-RCD) open conductor test,
- (P-RCD) PE conductor test,
- (P-RCD) probe test.

Special function for checking the equipment's consumption and power in one step. Leaks & Power is one of the strong troubleshooting functions of MI 3360 OmegaPAT XA. This function enables the user to get comprehensive information with just one measuring procedure.

- Active power
- Apparent power
- Reactive power
- Touch leakage
- Differential leakage
- Power factor
- THD of voltage
- THD of current
- Cos FI
- Current
- Voltage

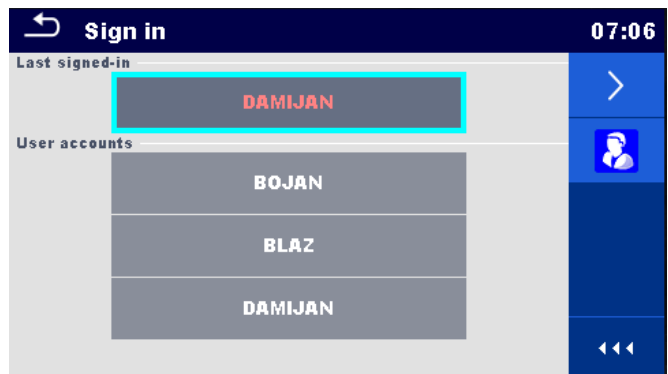
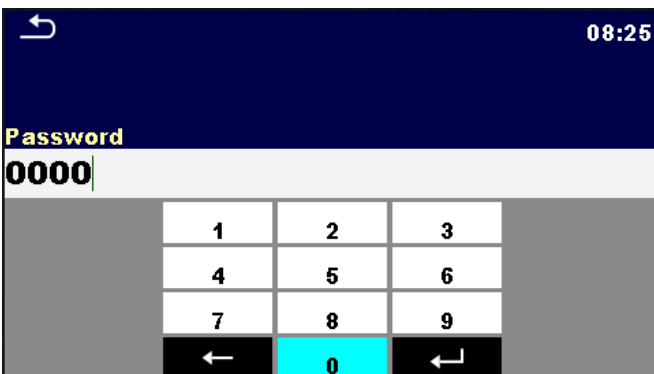
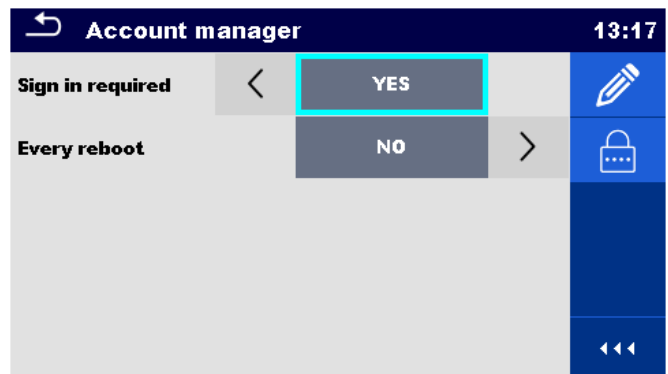
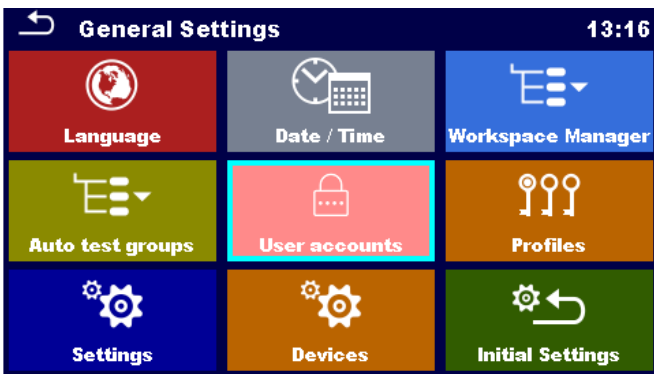


The combination of the different functions are built into several AUTO SEQUENCE<sup>®</sup>s which guide the user through complete and professional testing of P-RCD protected extension leads or portable switchgears. This functionality makes MI 3360 OmegaPAT XA a leading tester in this application.

With the provided information the user can easily identify if the equipment has some malfunction. One of the typical problems could be faulty power supply capacitors.

# User accounts

More and more industries are focusing on compliance and quality, which lead to traceability. MI 3360 OmegaPAT XA enables the creation of several user accounts which can prevent unauthorized individuals to work with the instrument. The main purpose of logging in is to ensure that the measurements performed by a specific user have their own signature. This enables backward traceability and proof that specific equipment was tested by the logged in user. The user information is automatically transferred to a PC software where it will be archived.

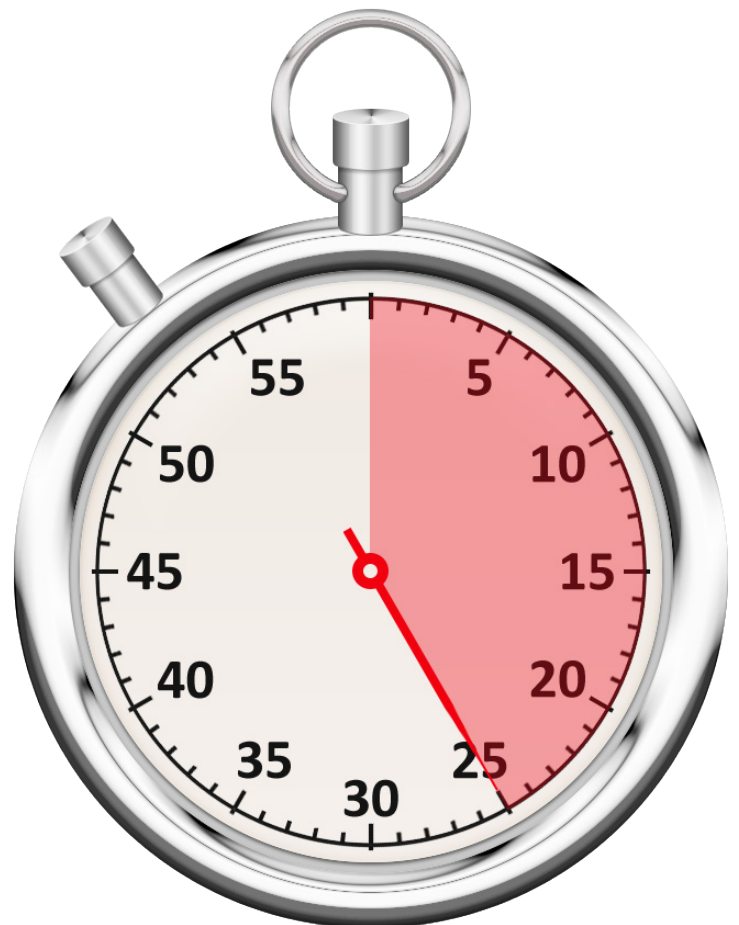


# The fastest tester on the market

Latest technology implemented in Metrels instrument enabled us to develop high speed boot-up sequence and fast execution of AUTO SEQUENCE® test. MI 3360 OmegaPAT XA is at the moment by far the fastest tester on the market – one of the best features when it comes to mass volume testing. A typical test sequence includes:

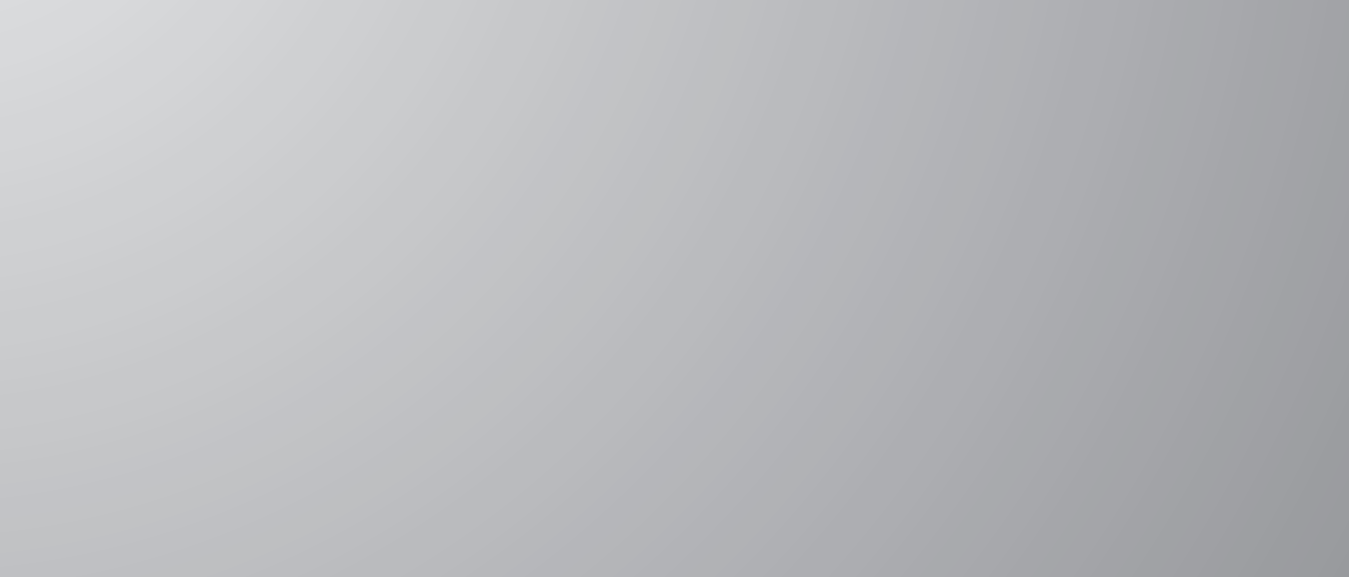
- Visual inspection,
- Earth bond test,
- Insulation test,
- Functional test including (P, S, Q, Itouc, Idiff, PF, THDi, THDu, Cos Fi, U, I),

and takes no more than 35 s from the boot up of the instrument to the end of the test sequence including storing of test results into memory organizer. If the instrument is already in the operational mode when the test sequence is started, the speed of the executed sequence will be reduced for additional 10 s. This makes the MI 3360 OmegaPAT XA fastest portable appliance tester on the market.



# AUTO SEQUENCE®

Automatized test procedures or shorter AUTO SEQUENCE®s are one of Metrel's most recognized innovative feature for many years. The latest generation of Metrel testers with colour touch screen in combination with Metrel Electrical Safety Manager Software, shorter called MESM has placed this feature on a completely new level.



Metrel AutoSeq\_Medical\_GT.atmpx - Auto Sequence® Editor

File | Auto Sequence® | Communication | Tools

Open | New | Save | Close | New Folder | New Auto Sequence® | Delete | Download | Upload | Custom Inspection Editor

Metrel AutoSeq\_Medical\_GT.atmpx | Metrel AutoSeq\_PAT\_AusNz.atmpx | Metrel AutoSeq\_PAT\_GT.atmpx | Metrel AutoSeq\_PAT\_NEN.atmpx | Metrel AutoSeq\_PAT\_UK.atmpx

Auto Sequence® group

PE\_ISO\_EL(Dir)\_AP(Dir)\_AP\_BF

Visual inspection  
Protective Earth Resistance  
Insulation  
Equipment leakage (Direct method)  
Applied part Leakage F type (Direct method)  
Power

Auto Sequence® code: MA01  Readonly

**Protective Earth Resistance**

- PAUSE
- SINGLE TEST
- OPERATION AFTER END OF TEST

**R iso**

- PAUSE
- SINGLE TEST
- OPERATION AFTER END OF TEST

**Equipment Leakage**

- PAUSE
- PAUSE
- SINGLE TEST
- OPERATION AFTER END OF TEST

**Applied Part Leakage**

- PAUSE
- SINGLE TEST
- OPERATION AFTER END OF TEST

**Power**

- SINGLE TEST

**Equipment Leakage**

- PAUSE
- Pause type: Show Text and/or warning
- Text: Mains voltage will be applied to the appliance!
- Show warning icon:
- PAUSE
- Pause type: Show picture
- Show warning icon:
- Image path: Equipment\_Leakage\_Direct\_Class1.jpg
- SINGLE TEST
- Date/Time: 29/03/2017 08:14:47
- Duration: 5 s
- Method: Direct
- Change: YES
- Utrom: 230 V
- Limit: 500 uA
- OPERATION AFTER END OF TEST
- Operation after end of test - pass: Auto
- Operation after end of test - fail: Manual
- Operation after end of test - no status: Manual

Single test

Measurement | Inspections | Custom Inspections

- Medical equipment
- Portable appliances
  - Clamp current
  - Open conductor (PRCD)
  - Continuity
  - Differential Leakage
  - Flash
  - Ipe Leakage
  - Leak's & Power
  - PE conductor (PRCD)
  - Polarity
  - Power
  - PRCD
  - PRCD PE probe test
  - RCD
  - R iso
  - Sub-leakage
  - Touch Leakage
- Welding equipment

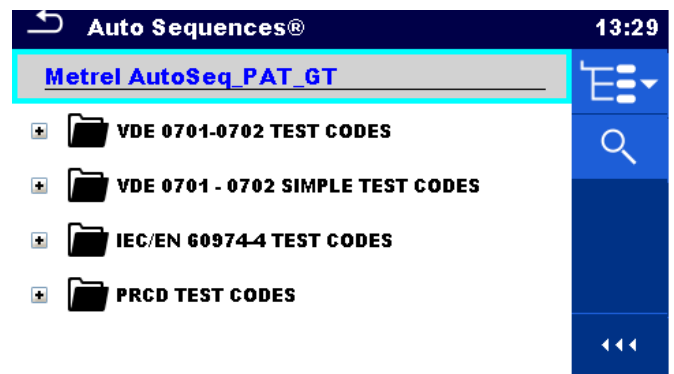
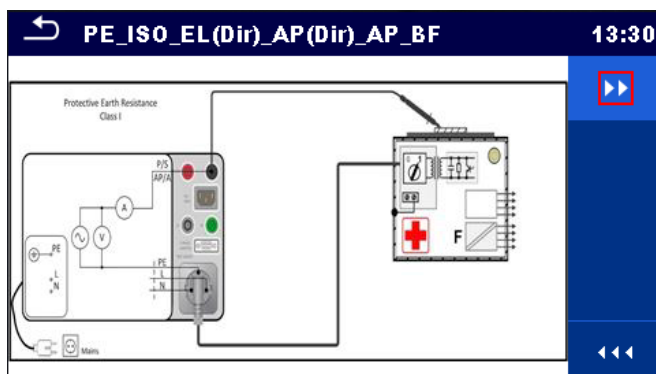
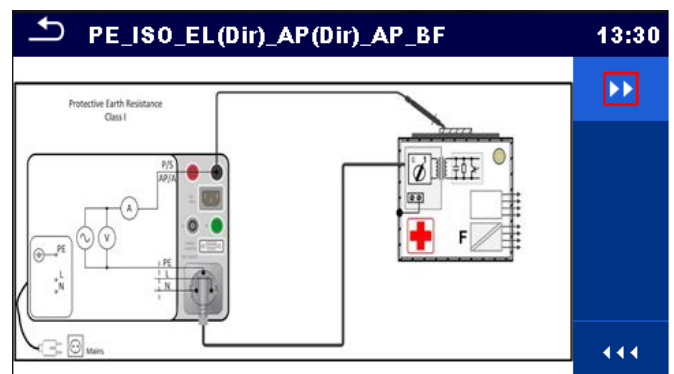
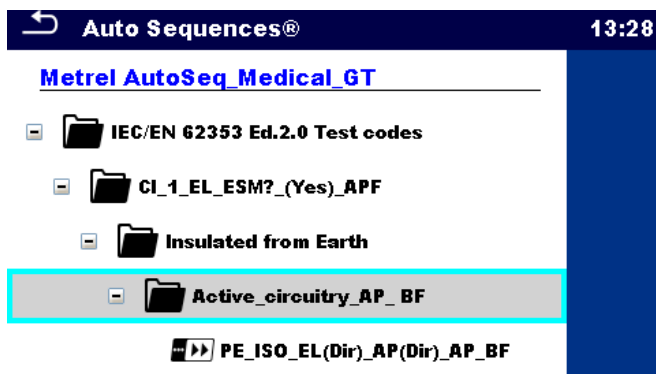
Flow Commands

- PAUSE
- BUZZER mode
- NO NOTIFICATION mode
- FLOW PROTOCOL
- INSPECTION EXPERT mode
- APPLIANCE INFO

PAT (new instruments)

# AUTO SEQUENCE®

The MI 3360 OmegaPAT XA enables the user to select Metrel's predefined AUTO SEQUENCE®s, developed for specific applications, in accordance with VDE 0701-0702, IEC/EN 60974-4, special AUTO SEQUENCE®s for P-RCD testing (2-pole, 3-pole, K/Di (Varistor) type, S (3-pole) type), and IEC/EN 62353. In addition to these predefined sequences the users can create their own custom sequences, using our MESM AUTO SEQUENCE® editor. This tool enables the creation of sequences including comments, wire diagrams, pictures and custom visual or functional inspections. User defined sequence can include as many different measurements as they are supported by the instrument. In addition to this feature, there are no limitations about the design of the sequence flow, quantity of the used steps for specific test or quantity of the comments or pictures used. For a skilled user such custom-made AUTO SEQUENCE®s can reduce time for testing, and on the other hand for the unskilled user can make testing easier by checking comments connection diagrams and flow of the test sequence.

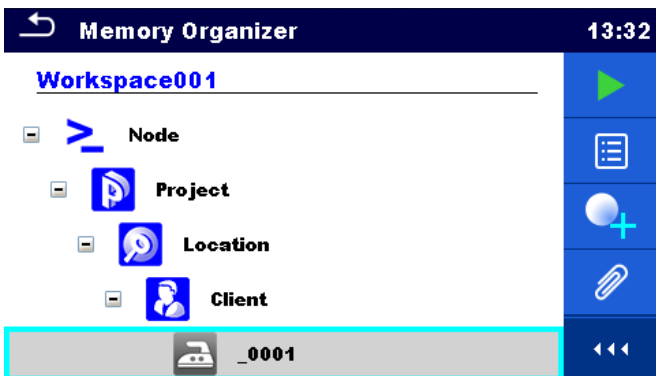


# Multi-level memory organizer

An organized structure defines where the tested appliances are used, located and who is using them – this can significantly reduce time for the retesting of appliances and for printing of test reports. The organized data can also be transferred to MESM software for archiving. MI 3360 OmegaPAT XA's state of the art memory organizer enables the user numerous possibilities:

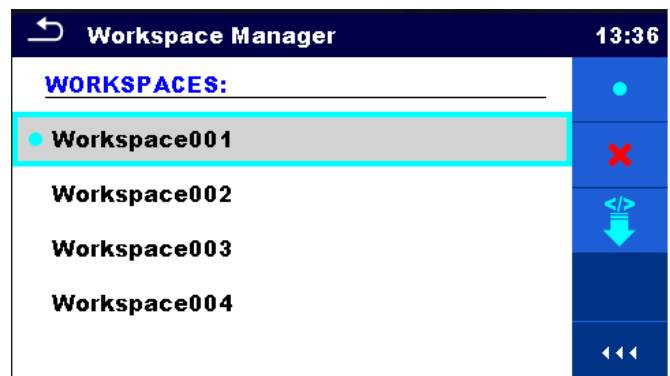
- Node
- Project
- Location
- Client
- Element
- Appliance limited description
- Appliance full description

- The first level of the memory structure starts within Workspace Manager which is basically a location for storing different projects called Work Spaces, from here on the user can start to create custom multi-level structure including following structure elements:



All of these elements can be used many times within the same structure.

- Multi-level structure includes predefined structure elements, including AUTO SEQUENCE<sup>®</sup>s or single tests. The complete structure can be created, on the instrument, in MESM software or in the aMESM Android application. Both SW sets enable data upload to the instrument.

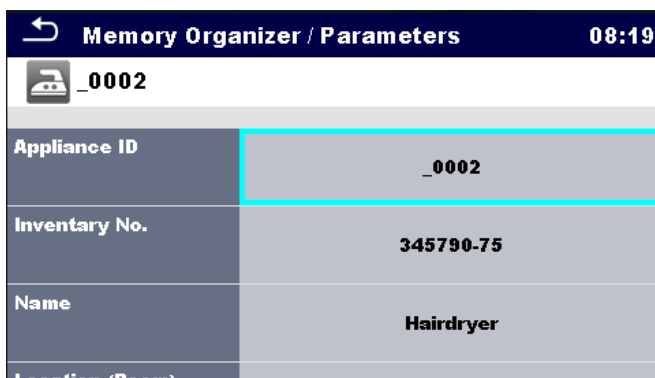




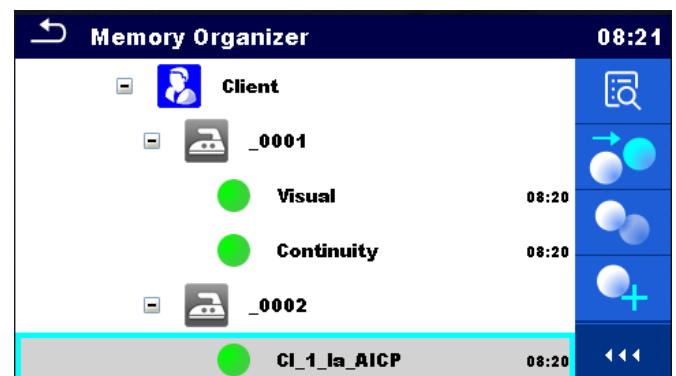
# Multi-level memory organizer

Each structure element has the possibility of adding special parameters, this is especially useful for the structure elements designed as substitutes for the appliances. You can set such parameter as:

- Appliance ID,
- Name,
- Equipment user,
- Location (Room),
- Inventory number,
- Test date,
- Re-test period (in months),
- Next test,
- Group,
- Producer/make,
- Nominal frequency,
- Nominal power,
- Fuse rating,
- Unique ID,
- Etc.



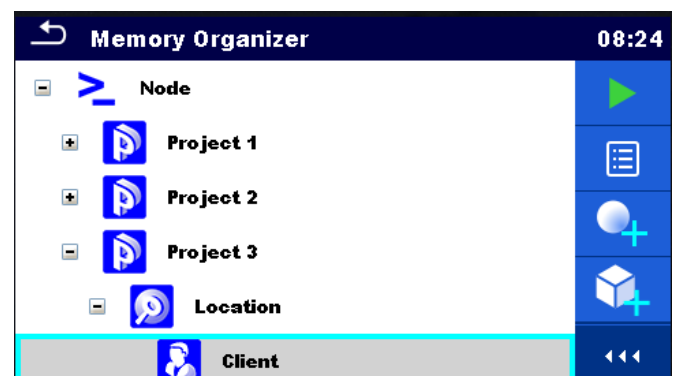
Memory Organizer / Parameters 08:19	
🔧 _0002	
Appliance ID	_0002
Inventory No.	345790-75
Name	Hairdryer
Location (Room)	



Memory Organizer 08:21	
Client	
-0001	
Visual	08:20
Continuity	08:20
-0002	
CI_1_la_AICP	08:20

If these parameters are set they will be automatically printed on professional test reports.

- Memory organizer with its special tools for structure copying and cloning enables fast creation of the desired structure.



Memory Organizer 08:24	
Node	
Project 1	
Project 2	
Project 3	
Location	
Client	

# Support for reading /writing devices

To make PAT testing as user-friendly and efficient as possible, Metrel has incorporated many different technologies in MI 3360 OmegaPAT XA. The instrument supports a wide range of peripheral accessories for scanning/reading and writing, among them different types of printers, (portable, desktop, battery operated, mains operated, Bluetooth or wired) and different types of reading devices (barcode/QR scanners and NFC reader/writer).

MI 3360 OmegaPAT XA supports the following options for reading and writing (specific media):

- bar-codes,
- QR-codes,
- NFC tags,
- RFID tags (read only).

Specially designed QR code enables storing complete information about executed test inside the code itself. With the aMESM Android application the user can scan the QR code at any time and see the information about executed tests, limits, PASS/FAIL status and re-test date. Same functionality is also supported by the NFC tag technology. For the retesting of portable appliances the user has two options; one is to start the retest from the instruments memory organizer based on the previous test, or directly from scanning the QR code or NFC tag – this makes re-testing very time efficient and reliable.

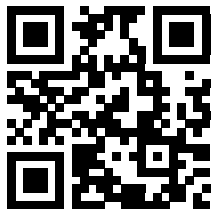
INSTRUMENT	SCANNER		CABLE	NFC/RFID CABLE	ANDRIOD APP	BLUETOOTH		PRINTER		CABLE
	BLUETOOTH					CABLE OR BLUETOOTH		CABLE		
 <p><b>MI 3360 OmegaPAT XA NEW</b></p> <p>Available at local authorised reseller EU incl. UK REGION AUS/NZ REGION</p> <p>Barcode </p> <p>QR </p> <p>NFC/RFID </p>										
	A 1545	A 1321	A 1105	A 1571	A 1521	P4T	RW 220	A 1488	S 2062	A 1489
	QR/Barcode scanner	Barcode scanner	Barcode scanner	NFC reader/writer	aMESM	Zebra mobile printer	Zebra mobile printer	Able printer	Zebra BT lable printer set	Able printer
	•	•	•	•	•	•	•	•	•	•
	•	•	•	•	•	•	•	•	•	•
	•	•	•	•	•	•	•	•	•	•
	•									

# Accessories

As an option, Metrel is offering a new well-designed professional-yet-functional large carrying bag for transport and storage of test instrument and all belonging accessories.



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Note! Photographs in this catalogue may slightly differ from the instruments at the time of delivery.  
Subject to technical change without notice.

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