

INSULATION RESISTANCE TESTER

BT X ISOTM

Industrial Insulation Measurement | Ethernet Connectivity | Modbus TCP



BT X ISO™ — Industrial Insulation Resistance Tester

The **BT X ISO™** is an industrial insulation resistance tester engineered for reliable measurement, clear on-panel operation, and seamless integration into automated industrial test environments.

Built around a rugged instrumentation enclosure, the BT X ISO™ provides local operation through its front-panel display and function keys, with dedicated indicators for power, test and fault status.

For automated and networked environments, the instrument provides **Ethernet connectivity** with **Modbus TCP** communication, enabling integration with industrial automation and test-management systems.

Local Operation

Front-panel display & function keys

Status Indication

Power / Test / Fault indicators

Ethernet

Industrial network connectivity

Modbus TCP

Automation system integration

"Engineered for insulation testing and industrial test-system integration."

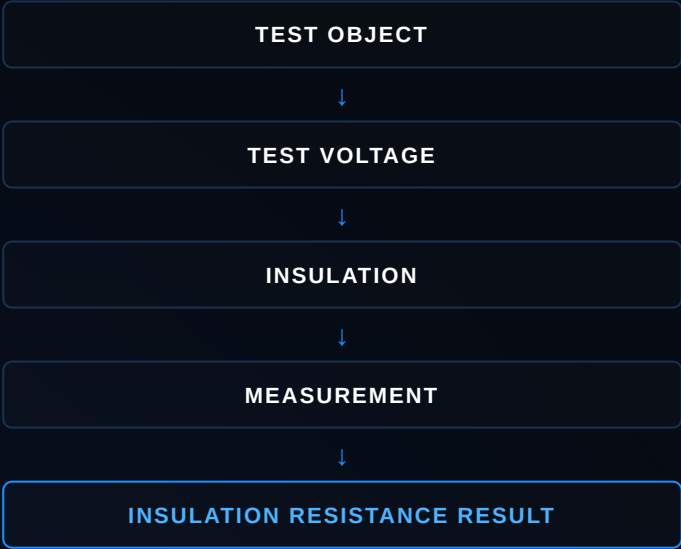
Understanding Insulation Resistance

Insulation resistance testing evaluates the quality of electrical insulation by applying a test voltage across an insulating material or barrier and measuring the resulting resistance. A higher measured resistance indicates healthier, more effective insulation, while a degraded or compromised insulation path results in a lower resistance reading. This measurement is a fundamental technique used to verify electrical safety and insulation integrity across components, assemblies and finished products.

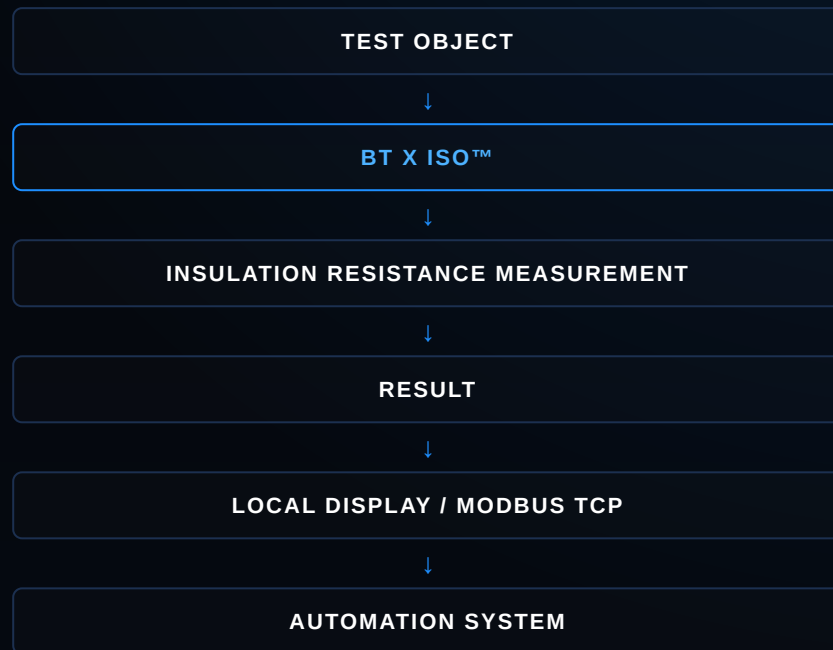
Typical Applications

Electrical Safety Safety evaluation of insulation systems	Condition Verification Confirming insulation integrity	Manufacturing Quality In-line product verification
Production Screening Screening units before dispatch	Preventive Maintenance Periodic insulation health checks	R&D Testing Design validation and evaluation

Measurement Concept



Engineered for Industrial Testing



LOCAL OPERATION

Operator → Front Panel → Test → Display → Result

AUTOMATED OPERATION

PLC / PC → Ethernet → Modbus TCP → BT X ISO™ →
Measurement → Result

Operator-Centric Front Panel

- | | | | |
|----|-----------------------------|----|---------------------------|
| 1 | BXtronics Logo | 2 | BT X ISO™ Product Marking |
| 3 | Display | 4 | POWER Indicator |
| 5 | TEST Indicator | 6 | FAULT Indicator |
| 7 | F1 — Function Key | 8 | F2 — Function Key |
| 9 | F3 — Function Key | 10 | F4 — Function Key |
| 11 | Positive Test Terminal | 12 | Negative Test Terminal |
| 13 | High-Voltage Warning Symbol | 14 | 600V MAX Marking |



Test Connection Interface

BT X ISO™ (+)



TEST OBJECT



BT X ISO™ (-)

The actual test connection must follow the applicable test procedure defined for the product or component under evaluation, along with all relevant electrical safety requirements.

Verify the test configuration before applying test voltage.

Do not touch test terminals or the test object during an active high-voltage test.

Simple Test Workflow

01 CONNECT

Connect the test object.

02 VERIFY

Verify the test configuration and safety conditions.

03 TEST

Initiate the insulation resistance test.

04 MEASURE

BT X ISO™ performs the configured measurement.

05 RESULT

View the result locally or through the automation interface.

Refer to the final technical datasheet for test duration and timing specifications.

Clear Test Status Indication

 POWER

Instrument power status.

 TEST

Test status indication.

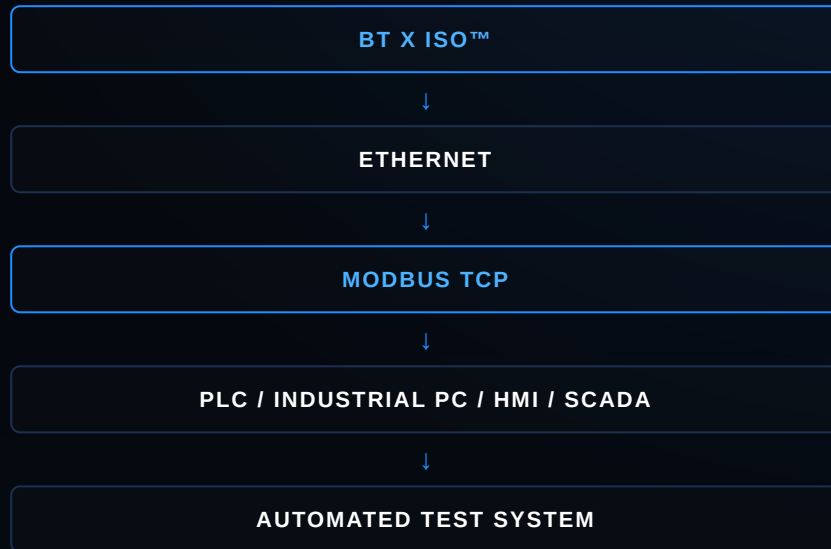
 FAULT

Fault / status indication.

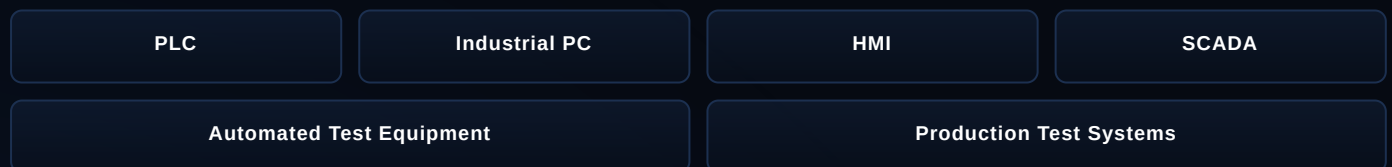
LED colour behaviour, blink patterns and fault codes are defined in the final technical datasheet.

KEY FEATURE

Industrial Ethernet + Modbus TCP

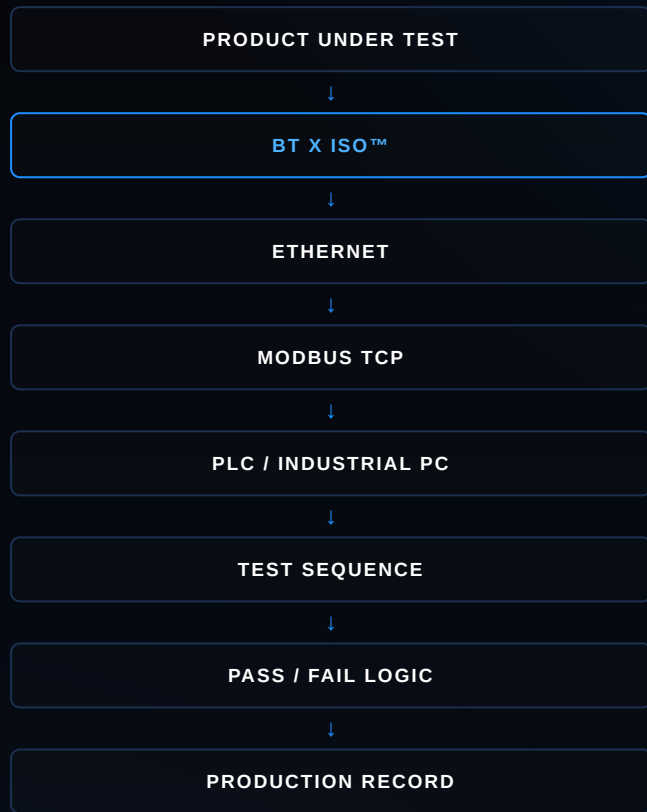


BT X ISO™ is designed for Ethernet-based Modbus TCP integration with industrial automation systems, enabling remote command, measurement retrieval and status monitoring across a connected test environment.



Refer to the BT X ISO™ Modbus TCP Communication Manual for detailed communication information.

From Manual Testing to Automated Testing



Within an automated test station, the BT X ISO™ operates as the dedicated insulation resistance measurement instrument — receiving commands and returning measurement results over Modbus TCP.

The surrounding PLC or industrial PC is responsible for sequencing, pass/fail evaluation and production record generation, keeping the instrument's role clearly defined within the larger test system.

Instrument Role

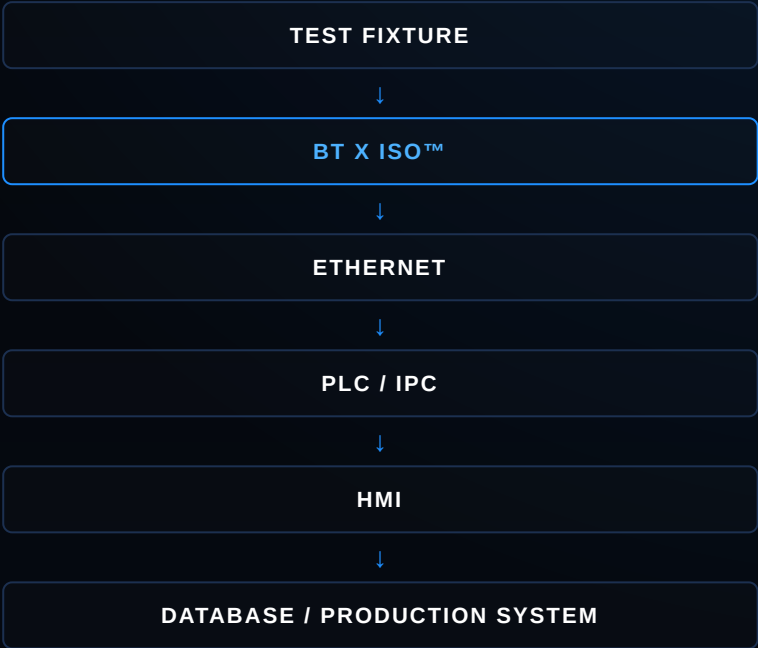
BT X ISO™ performs the insulation resistance measurement. External PLC / software systems handle sequencing, logic and data management.

Industrial Applications

Electrical Insulation Testing	Automotive Component Testing
EV Manufacturing	Electrical Assemblies
Harness & Wiring Verification	Production-Line Testing
Quality Inspection	R&D Laboratories
Industrial Test Benches	Automated Test Stations
Incoming Inspection	End-of-Line Testing
Applicable Battery / Electrical Testing	

Customer approvals and industry certifications are not implied and should be verified independently.

Built for Test-System Integration



Local Measurement	Ethernet Connectivity
Modbus TCP	Automation Integration
Centralized Test Control	External Production Data Acquisition

External systems can be used for data storage and production traceability. BT X ISO™ does not contain a built-in database, cloud platform, MES or PLC.

COMPANY

Engineered by BXtronics Pvt Ltd

BXtronics Pvt Ltd is an Indian electronics engineering company focused on precision measurement instrumentation and industrial automation. The BT X ISO™ reflects the company's engineering approach — practical, rugged and built for real industrial test environments.

Electronics R&D

Embedded Systems

Precision Measurement

Industrial Automation

Test Equipment

Hardware Development

Product Development

Application-Specific Engineering

 Designed and developed in India.

MADE IN INDIA

BT X ISO™ — Key Features

PRODUCT	BT X ISO™
TYPE	Insulation Resistance Tester
MEASUREMENT	Insulation Resistance
CONNECTIVITY	Ethernet
COMMUNICATION	Modbus TCP
INTERFACE	Local Display
INDICATORS	Power / Test / Fault
CONTROLS	F1 / F2 / F3 / F4
TEST INTERFACE	Positive / Negative Terminals
PANEL MARKING	600V MAX
ENCLOSURE	Industrial
ORIGIN	Made in India

For complete electrical and measurement specifications, refer to the final BT X ISO™ technical datasheet.

BT X ISOTM

INSULATION RESISTANCE TESTER

"Industrial Insulation Measurement with Modbus TCP Connectivity"



SCAN FOR PRODUCT DETAILS