

KINGSINE

Power Alarm Run



KF85P Universal Tester



- Super portable test equipment applied in both smart substation and traditional substation all over the world
- Meticulously designed by KINGSINE, a leading Chinese technology company with over 24 years in the market and a leading supplier of test and measurement equipment to the Chinese government;



Important information: Compact 6-phase relay test set with high accuracy & full solution (complying IEC61850 sampled value and GOOSE), fully meet all the requirements for detection and debugging of IEC61850 IEDs, Merge Units, station control systems and traditional protection relays

KF85P adopts Multi-Core SOC. avoiding the troublesome communication process caused by using data bus to exchange data



Core 1
Data
Simulation

Core 2
Command
Process

Core 3
Communication
Computer

The KF85P system is highly integrated, allowing it to fully meet the testing and commissioning requirements for:

- Protection relays;
- Measuring and control devices;
- smart terminals;
- Merge units;
- Intelligent substation control systems.



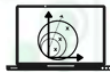
High Precision and Control of Electrical Quantities



Cutting edge technology



It allows testing Protection Relays (Digital, Electromechanical...), Merge Unit, Meters.....



Complete Software for Test Automation



Free training



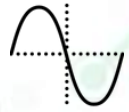
Lifetime Technical Support



Tutorials and Video Lessons



3 Year Warranty, extendable to 5 years



10 Independent Analog Channels



Variable DC Battery Simulator



10 Pairs Digital Inputs (Dry or “Wet Contact”)
4 Pairs Digital Outputs



Integrated Wi-Fi Module



Time Synchronization Protocol



GPS

Integrated GPS/BDS Timing Module

IEC 61850

- Automatically import SCL files (SCD, ICD, CID, NPI) to perform automatic setup of sampled values and GOOSE information and save sample values and GOOSE configuration information as a configuration file for testing;
- Support graphical display of SCD files, graphically display IED interconnect relationship and virtual terminal connection.

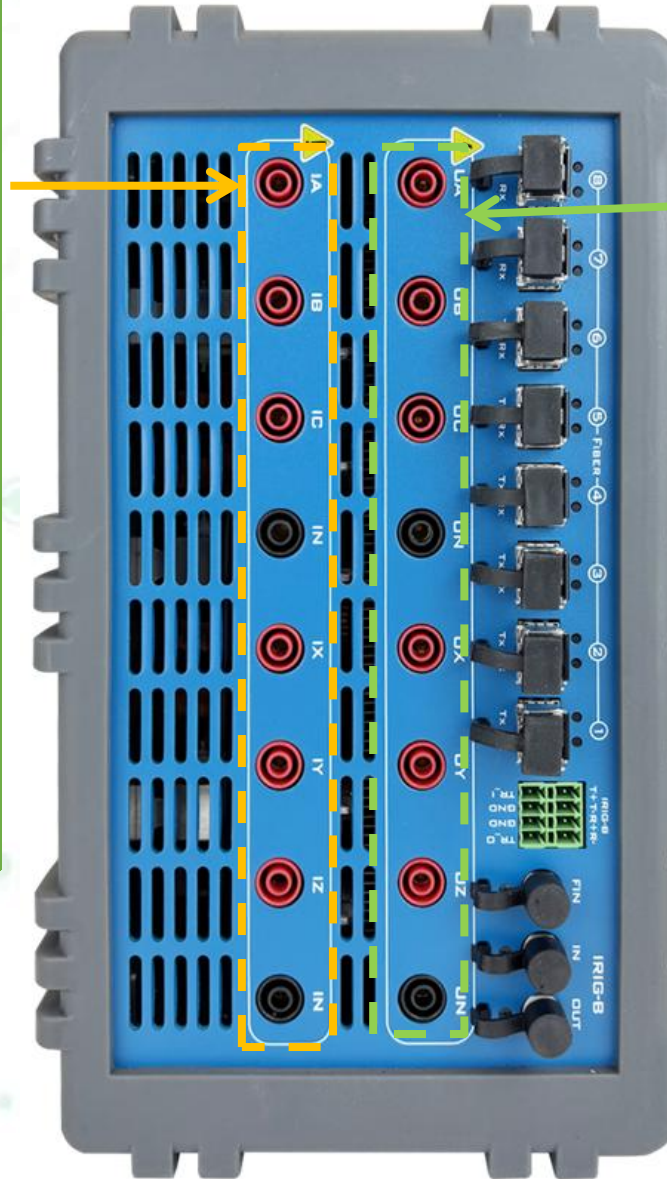


- Supports subscribing, publishing GOOSE messages;
- Multiple GOOSE control block messages can be subscribed/published;
- Automatically detects optical digital signals from MU, protection device and intelligent operation box, and realizes the function of automatic setting of sampling value and GOOSE information

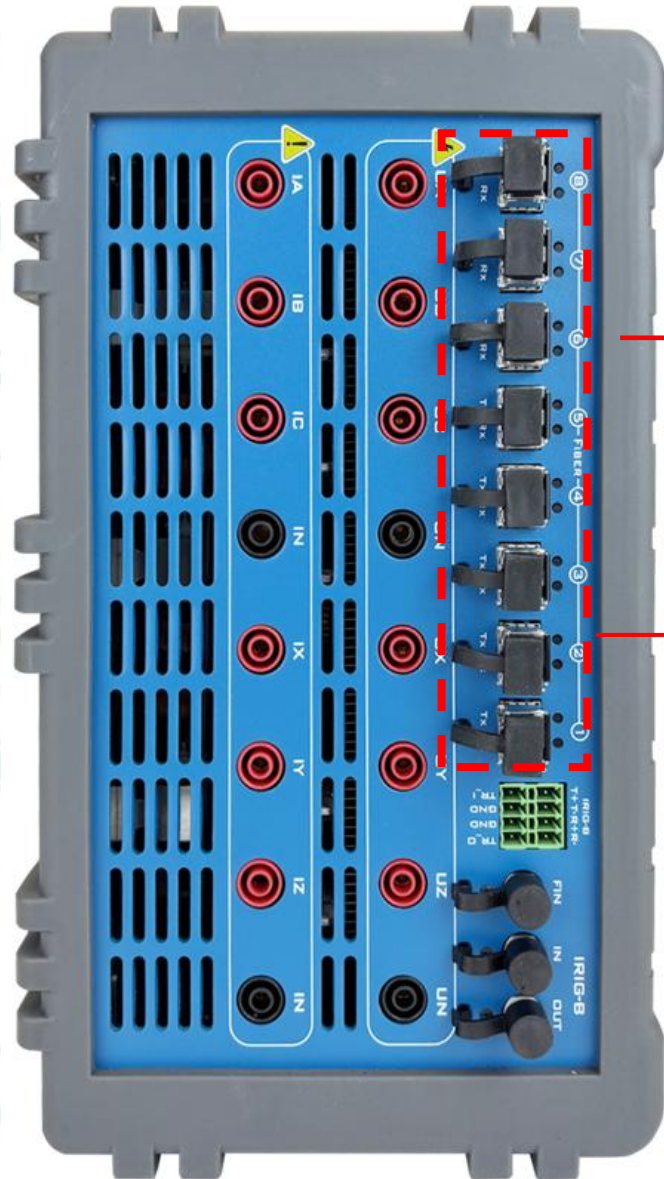


- Simultaneously inject analog signals and IEC61850 Sampled Value Messages;
- Up to 36 channels freely defined by the user;
- The channel quality of the outgoing SV message can be set and the simulation unit can be simulated and debugged

Current Channels (AC Mode)	
Amplitude and Power	6×35A @ 424VA max each; 3×70A @ 670VA max each;
Accuracy	<0.015%Rd+0.005Rg Typ. <0.04%Rd+0.01Rg Guar.
Range	Range I: 3A Range II: 30A Automatic Range
Offset DC	<3mA Typ./ <10mA Guar
Resolution	1mA
Distortion	<0.025%Typ. / <0.07% Guar.
Response Time Increase decrease	<100us
Current Channels (DC Mode)	
Amplitude and Power	3×20A @ 400W max
Accuracy	±5mA @ <1A ±0.2% @ ≥1A
Response Time Increase decrease	<100us



Voltage Channels (AC Mode)	
Amplitude and Power	6×310V @105VA max each
Accuracy	<0.015%Rd+0.005Rg Typ. <0.04%Rd+0.01Rg Guar.
Range	Range I: 30V Range II: 310V Automatic Range
Offset DC	<10mV Typ./ <60mV Guar
Resolution	1mV
Distortion	<0.015%Typ. / <0.05% Guar.
Response Time Increase decrease	<100us
Voltage Channels (DC Mode)	
Amplitude and Power	6×350V @ 75W max
Accuracy	±10mV @ <5V ±0.2% @ ≥5V
Response Time Increase decrease	<100us



Fiber port (LC type)	
Type	100Base-FX (100Mbit,Fiber, full duplex)
Port Number	8 Pairs
Cable model	62.5/125μm(Multiple-mode fiber, orange)
Wave length	1310nm
Transmission distance	> 1Km
Status indication	SPD Green (lights): active connection Link\Act Yellow (blinking): data exchange

All the LC and FT3 type Fiber ports are optional, no pre-installed.

Customers need to specify whether they want the fiber port installed and the IEC61850 function activated before placing an order.

Apply Two Fiber port type



RJ45 type Ethernet cable



LC type Fiber cable

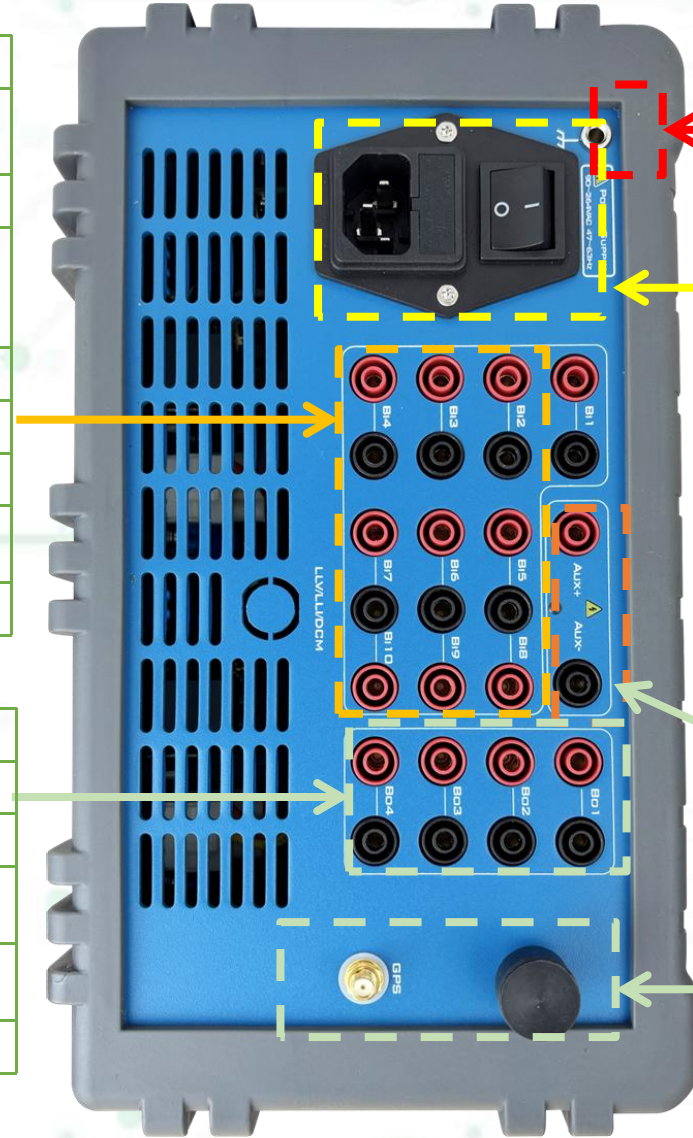




Time Synchronization	
Satellite Sync	1 × SMA, Use for GPS antenna interface Support GPS and Beidou Satellite
IRIG-B Fiber	2 × ST, 1 for transmit, 1 for receive
IRIG-B Electric	4 pin 5.08mm phoenix, 1 for transmit, 1 for receive
External trigger synchronization	4 pin 5.08mm phoenix external trigger input + external trigger output

Binary input	
Electrical isolation	10 pairs of electrical isolated each
Input impedance	5 kΩ...13kΩ (Empty contact)
Input feature	0 V~300Vdc Or dry contact (Binary input 1~4 threshold can be set)
Sampling Rate	10kHz
Time resolution	10us
Time measurement range	0~100000s
Time accuracy	±1ms @ <1s±0.1% @ ≥1s
Debounce time	0~25ms (Software controlled)

Binary Outputs	
Quantity	4 pairs, Fast speed
Type	Banana type 4.0mm
AC break capacity	Vmax: 250V (AC) / Imax: 0.5A
DC break capacity	Vmax: 250V (DC) / Imax: 0.5A
Electrical isolation	All pairs isolated



Grounding Point

Power supply	
Nominal voltage	220V/110V (AC)
Allowable voltage	85V~265V (AC) 127V~350V(DC)
Nominal Frequency	60Hz
Allowable Frequency	47~63Hz
Current	10A max
Power Consumption	1200VA max
Connection Type	Standard AC socket 60320

Auxiliary DC	
DC output	8 ~ 350V dc

Antenna interface	
WIFI	Inbuilt WIFI DHCP service
GPS	1 SMA type input

Compact

25,6 cm

39,0 cm

14,0 cm



extremely light

Ideal for use in:



Oil and Gas Platforms



Substations



Industry



Photovoltaic plants



Rail and Metro





Simple and Powerful software

Ideal for testing various equipment such as:



Protection Relays

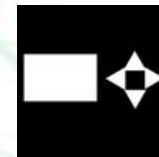
- Digital
- Electromechanical
- Static



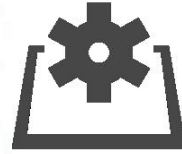
Power Meters



Transducers



And many others



Automatism - Test Modules



AC Test



Ramping



StateSequencer



Harmonic



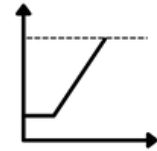
Frequency



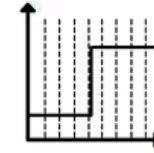
Overcurrent



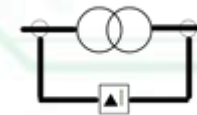
ZeroSequence



Differential



Harmonic Restraint



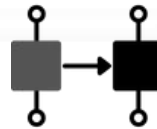
Differential Configuration



Distance



Power Swing



Reclose



Synchronizer



Test Plan

With just one
“click”
Test various
functions



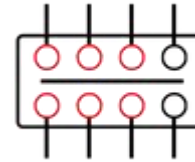
Templates

Create or use
ready-made
templates



Reports

Automatic Reports
Formats: RTF, XML
customizable



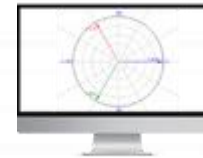
Wiring
diagram

Easily view
connections



Multiple
Languages

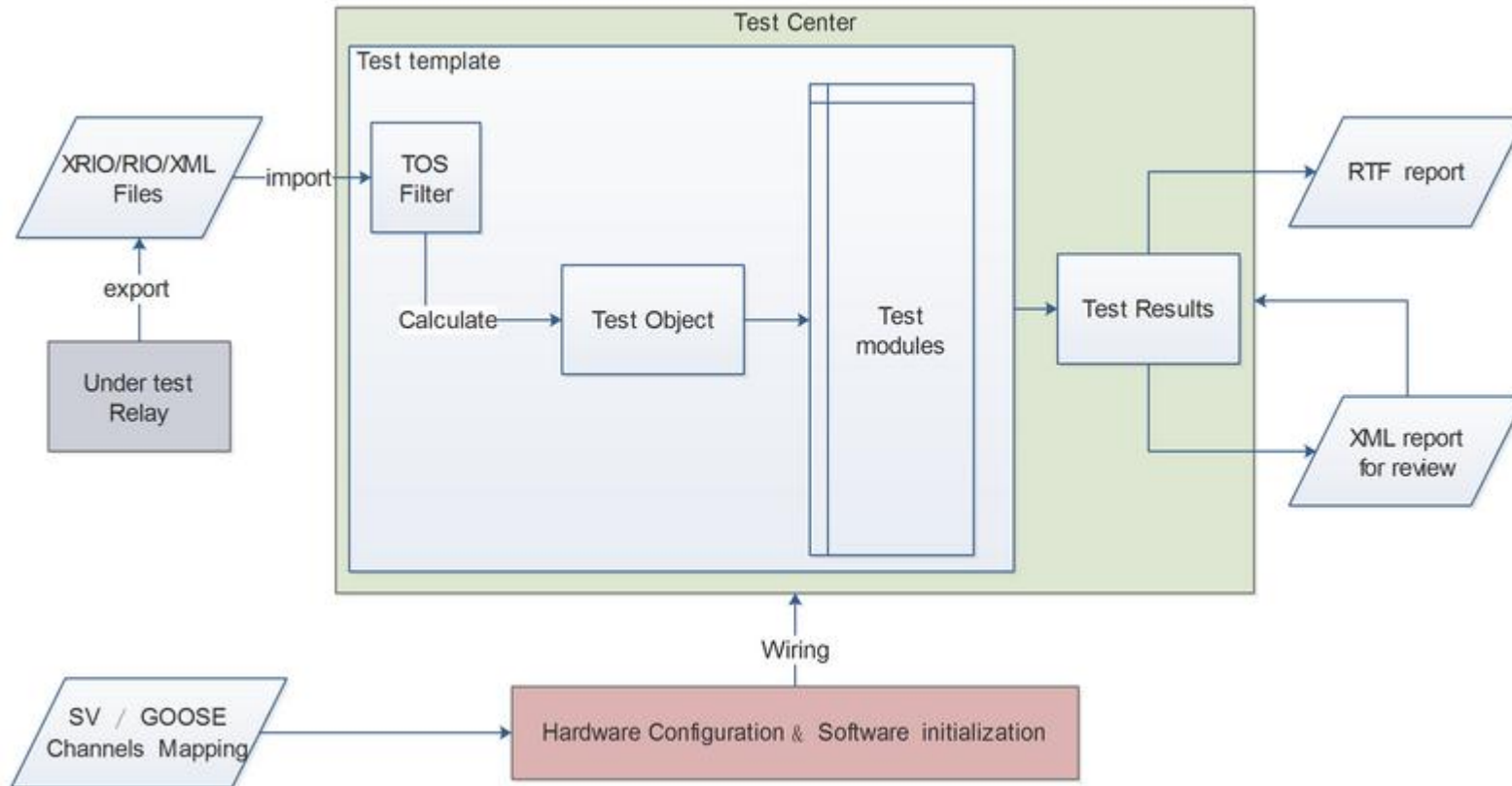
English
Portuguese...



Virtual
Instrumentation

real-time
monitoring

Software Diagram



“COM” Concept

C = Connect and Configure



- IP definition;
- Connection status..
- Definition of system parameters;
- Digital I/O definition;
- Definition of Goose and Sampled Value channels;
- Identification of analog channels and digital I/O
- Aux channel voltage level selection. DC (if necessary)



O = Test Object

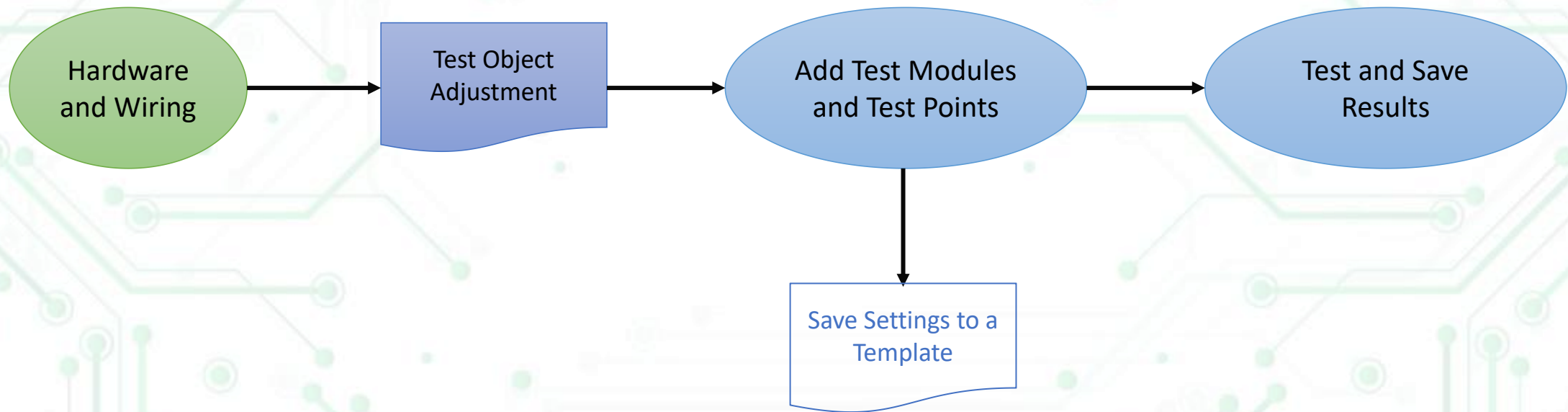
- Defines the object's nominal and fault conditions
- Characteristics of the protection function to be tested;
- General information of the protected electrical system...

M = Test Module

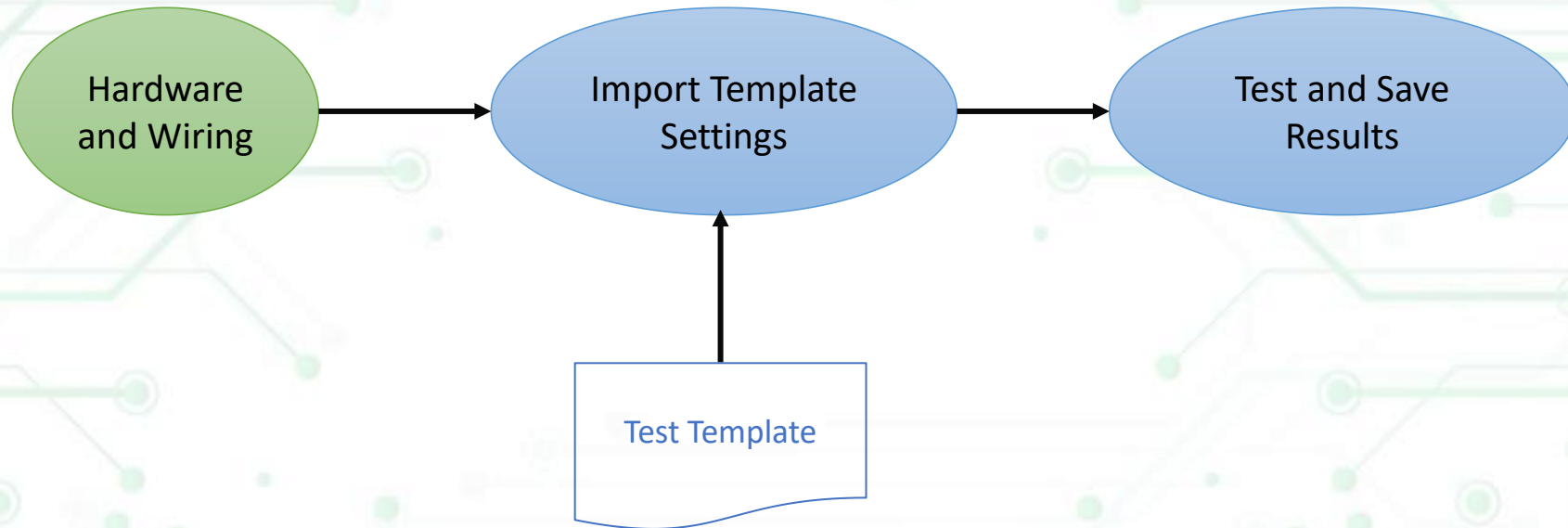


- Defines characteristics of Faults
- Time delays (Pre-fault time, fault time and post-fault time);
- Trigger Logic for Binary Inputs and Outputs;
- Visual Graphics defining test failures;
- Different views like: Vector View, Report View, Connection View, Time View etc.

New Test Object



Tested Object



No Test Object Defined

