

SYNOR1202

SYNOR4200 series



This high voltage series includes a cost effective tester with limited boards and specs (Synor1202), but also our famous Synor420X series which is used for production as well as for maintenance, and can cover 100% of the needed tests. Those testers comply with the VDE, UL, CSA standards and to the main EN European standards involved in the LOW VOLTAGE DIRECTIVE (LVD)

ISO 9001 Certified

- AC/DC dielectric strength test
- Insulation measurement
- Continuity in 2 & 4 wire
- Shielding detection
- Functional testing / stimuli
- Component testing
- Multilingual software

“ Through its easy to use interface, our High Voltage Cable Testers perform quick test for quality purposes “

TECHNICAL CHARACTERISTICS

CONTINUITY / NON CONTINUITY TEST

In 2 wires mode

- Test voltage 5 V to 25 V
- Test current 10 mA to 2 A
- Continuity low limit 0 Ω to 250 Ω
- Continuity high limit 1 Ω to 250 Ω
- Test time 0 to 99 s
- Accuracy \pm 2%

In 4 wires mode

- Test voltage 5 V to 25 V
- Test current 10 mA to 2 A
- Continuity low limit 500 $\mu\Omega$ to 250 Ω (according to test current) ; continuity < 100 $\mu\Omega$ in option
- Continuity high limit 500 $\mu\Omega$ to 250 Ω (according to test current) ; continuity < 100 $\mu\Omega$ in option
- Test time 0 to 99 s
- Accuracy from 500 $\mu\Omega$ to 5 m Ω : \pm 15% and from 5 m Ω to 250 Ω : \pm 2%

There is a possibility to couple to both continuity test (2 and 4 wires mode) a micro-cuts test which allows to detect intermittent contacts of minimum 1 μ s.

INSULATION TEST

- Test voltage from 20 V to 4200VDC (depending on the switching card type)
- Insulation limit from 50 k Ω to 500 M Ω under 500 V, and from 50 k Ω to 1 G Ω under 2000 V DC or 4200 VDC (and >15 G Ω in option)
- Accuracy \pm 5%
- Short-circuit current 3 mA
- Rising time from 3 ms to 99 s
- Holding time from 3 ms to 99 s

DIELECTRIC STRENGTH TEST (HIPOT)

✓ In DC

- Voltage from 20 V to 6000 VDC (depending on the switching card type) - 1 V steps
- Breakdown current from 500 μ A to 10 mA (Δ I)
- Rising time from 10 ms to 99 s
- Holding time from 10 ms to 99 s

✓ In AC (option)

- Voltage from 20 V to 5000 VAC (depending on the switching card type) - 1 V steps
- Breakdown current from 500 μ A to 100 mA (Δ I)
- Rising time from 500 ms to 99 s
- Holding time from 20 ms to 99 s

DIODE MEASUREMENT, TRANSIL

- Test current from 10 mA to 2 A
- Limit voltage from 100 mV to 20 V (by application of a current) and from 20 V to 90 V (by application of a voltage)
- Accuracy \pm 5%

RESISTANCE MEASUREMENT (AUTOMATIC RANGES)

- Resistance from 10 Ω to 10 M Ω
- Test time from 3 ms to 99 s
- Test current from 1 μ A to 10 mA (not programmable)
- Accuracy \pm 2%

CAPACITOR

- Capacity from 100 pF to 100 mF
- Accuracy \pm 5 pF \pm 10%

CAPACITOR in AC (option)

- Capacity from 100 pF to 2 mF
- Accuracy \pm 5 %
- AC voltage limited at 450 mV – 100 Hz, 1 KHz and 10 kHz (automatic ranges)

INDUCTANCE (option)

- Inductance limit from 100 µH to 2 H
- Accuracy ± 5%

SHIELDING, TWISTED PAIRS

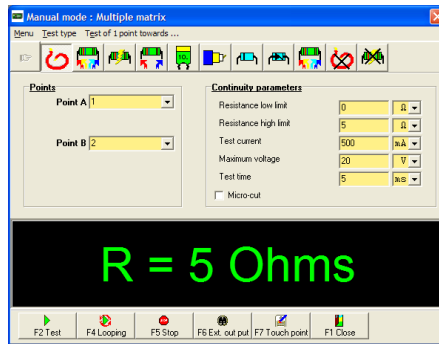
- Capacity from 100 pF to 10 µF
- Accuracy ± 5%
- Voltage limited at 5 V
- Automatic current range 1 µA up to 10 mA

SOFTWARE SPECIFICATIONS

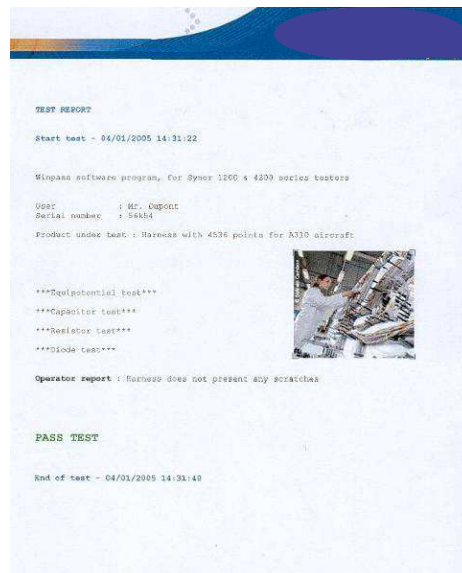
“TEST” MODE (pc has to be connected to the cable tester)

- **Self-learning** creation of a test file by automatic learning (the cable must be without any default : standard cable)
- **Self-test** the self-test automatically checks that the internal measuring equipment are working well

- **Manual test** the manual test can make a test in between 2 any points; allows the user to easily correct default onto the cable under test or make some debugging



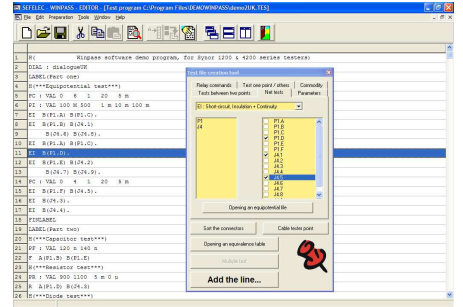
- **Printing of the test report** it includes the reference of the tested equipment, hour and date, faults and measured values (including right value from setup) and a global test report



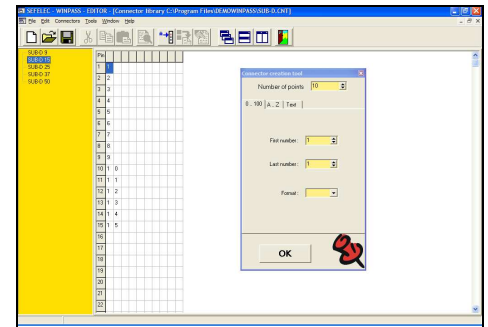
- **Touch probe** helps you to identify points when doing the correspondence table or some maintenance
- **External output** allow the user to use external measuring equipment
- **Result saving** you can save your result on hard disks, and give to the file name a date, serial number, ... format, to better identify saved files and for easier traceability

“EDITION” MODE (program creation through our editor - can be done without being connected to the cable tester)

- **Text editor** allows to create, modify, or edit program files



- **Easy programming** a large panel of tools helps you to write your test program, your connector libraries, and correspondence tables



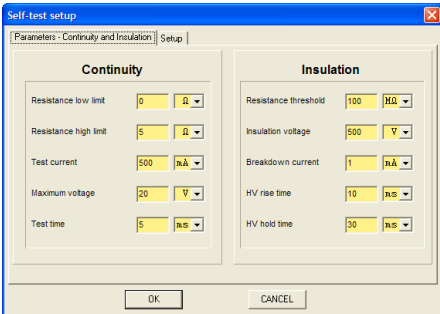
- **Correspondence table** the correspondence table translates tester points into user interface points.

- **Test parameter** test parameters are clearly indicated inside the test program

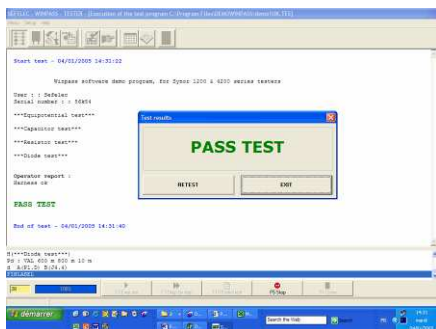
- **Syntax tool** the test program syntax is automatically checked in order you only validate a working test

- **Printer output** test programs, result files, correspondence table can easily be printed out

- **Statistics** you can read the statistic file with any type of database



- **Automatic test** the automatic test can make a test in between two points, in between one point against to all the lower ones (connected in between them to the 0 V), or in between one point against all the other points



GENERAL CHARACTERISTICS



Synor 1202 Presentation

- Table top unit
- Metal case

Dimensions

- Height 320 mm
- Width 270 mm
- Depth 530 mm

Weight

8 kg

Power

- 220 V - 50 Hz, 220 V - 60 Hz or 110 V - 60 Hz
- Consumption 200VA

Operating temperature

0°C to +45°C

Storage temperature

-10°C to +60°C

Over-voltage category

CATII

Pollution degree

2

Safety class

Class I (earth connection)

Output connector type

Female 64 points DIN41612 or any other customized type

Synor 4202/4207P Presentation

- Rack presentation
- Metal case

Dimensions

- Height 340 mm
- Width 530 mm
- Depth 600 mm

Weight

12 kg

Power

- 220 V - 50 Hz, 220 V - 60 Hz or 110 V - 60 Hz
- Consumption 400 VA

Operating temperature

0°C to +45°C

Storage temperature

-10°C to +60°C

Over-voltage category

CATII

Pollution degree

2

Safety class

Class I (earth connection)

Output connector type

Female 64 points DIN41612 or any other customized type



Synor 4203/4208P Presentation

- 32U, 36U (or other dimension) cabinet presentation
- Metal case

Dimensions

- Height 32U, 36U or other
- Width 530 mm
- Depth 600 mm

Weight

Depends on configuration

Power

- 220 V - 50 Hz, 220 V - 60 Hz or 110 V - 60 Hz
- Consumption 400VA/rack

Operating temperature

0°C to +45°C

Storage temperature

-10°C to +60°C

Over-voltage category

CATII

Pollution degree

2

Safety class

Class I (earth connection)

Output connector type

Female 64 points DIN41612 or any other customized type

SWITCHING CARD TYPE

DEDICATED FOR SYNOR 1202 / 4202 / 4203

Switching cards

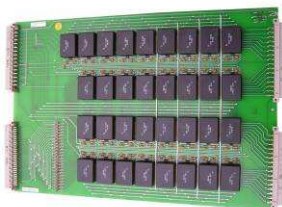
40427

1000 VDC / 750 VAC (if option 34019) / 2A switching card - 128 points



40418

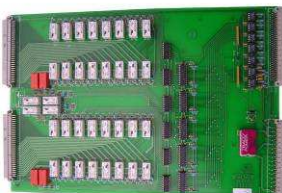
2000 VDC / 1500 VAC (if option 34019) / 2A switching card - 64 points



Stimuli cards

40575A

500 VDC / 350 VAC / 3A stimuli card - 2 x 16 channels + common



DEDICATED FOR SYNOR 4207P / 4208P

Switching cards

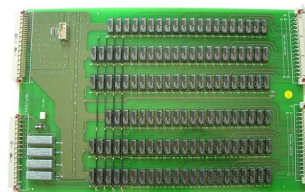
40670

1000 VDC / 750 VAC (if option 34019) / 2A switching card - 64 points



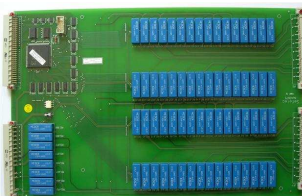
40570

2000 VDC / 1500 VAC (if option 34019) / 2A switching card - 64 points



40675

3000 VDC / 2000 VAC (if option 34019) / 2A switching card - 32 points



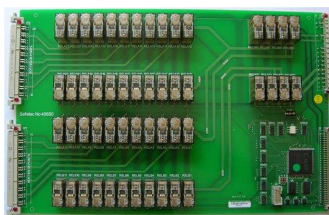
40676

4200 VDC / 3000 VAC (if option 34019) / 2A switching card - 24 points

Stimuli cards

40680

2000 VDC / 1500 VAC (if option 34019) / 10A stimuli card - 22 points



OPTIONS

40494-1

U measurement - has the role of protection to check that the DUT is not under voltage before doing test

40494-2

Low level - test with very low voltage (200 mV) ; allows not to see any components

40494-3

LZC measurement - Inductance measurement, Impedance measurement, Capacitance measurement in AC

40494-4

LZC measurement + U measurement

40494-5

LZC measurement + Low level

40494-6

U measurement + Low level

40494-7

LZC measurement + Low level + U measurement

34019

AC dielectric strength at 1 500 V AC 50 Hz

XS option

VERY HIGH VOLTAGE OPTION (able to switch up to 5 kVAC 100 mA / 6 kVDC 40mA depending on the switching board type)

MGR10 option

VERY LOW RESISTANCE OPTION (able to measure below 100 μΩ, up to 10 A depending on the switching board type)



M1501P option

VERY HIGH RESISTANCE OPTION (able to measure higher than 15 GΩ)

PCI7250

Main I/O card with 8 opto isolated inputs, 8 outputs on dry contacts 120 V - 0,5 A ; allows you to drive lamps, relays, PLC control. This option needs 1 free PCI slot inside the PC; the power supply to be switched by contacts is not included; it has to be entered directly on the board through a SUB-D

PCI7251

PLC interface extension (has to go with PCI7250) - additional I/O card (same specs as PCI7250)

PC-LWXP

Desktop PC, inkjet printer, Windows™ XP PRO



PCR-LWXP

Rackable industrial PC, inkjet printer, Windows™ XP PRO



AVAILABLE ACCESSORIES

CO160-xx

Red-Green lamp to indicate the HV presence



SYSE0133 (standard accessory, automatically delivered with new equipment)

Touch probe, useful for debugging & manual testing



SY-CALSYNOR

Synor series calibration kit



Specifications subject to change without notice

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