



TECHNICAL DATA SHEET

Safety and function tester **GLP1-g**

Revision 5 / valid as of August 2022

Standard model GLP1-g

ELECTRICAL SPECIFICATION			
Supply voltage	110 to 250 V ac		
Mains frequency	47 to 63 Hz		
No load current consumption	0.5 A, fuse T10A		
GENERAL SPECIFICATION			
Touch display	5"-color display, resolution 480 x 272 pixels		
Data input / operation	via touch display		
Time & date	clock with integrated calendar		
Test plan storage	1,000 plans – fixed test step sequence – disabled test steps will be skipped		
Test result storage	792 test results including all set values, measuring values, date and time for each test step additional storage of order relevant information.		
Test connections	test socket ¹⁾ on the front panel of the tester		
	test probe connection on the front panel of the tester		
	industrial plug connection ^{1,2)} on the rear side of the tester		
	high-voltage sockets on the front panel of the tester		
Safety	key switch ³⁾		
•	access to the test parameters protected by password		
	2 x Interlock-safety inputs HV, dual-circuit according to CAT IV, internal relays with positively driven contacts		
	2 x Interlock-safety inputs NV, dual-circuit according to CAT IV, internal relays with positively driven contacts		
	input for emergency stop		
	CE-conform, corresponding to VDE 0104 / EN 61010		
Interfaces (communication)	Selectable between RS232, USB or LAN (LAN from Q4/2018)		
	USB at the front for bar code scanner and service		
Interfaces (standard)	outputs : result light, warning light		
	inputs : foot-switch on the front side, only for high-voltage testers with test pistols, optional two-hand contro		
Interfaces (PLC-I/O-remote control)	outputs : GO, NO GO, test is running, ready, HV-on, I <min, discharge<="" disruptive="" td=""></min,>		
•	max. current per output : 100 mA		
	Current consumption at pin 17 of the emergency stop circuit is not permitted for own control purposes		
	inputs : start, stop, foot-switch		
	3 x selection of test programs => 7 x choice option of test programs		
Calibration	by software, without opening up the tester		
Software operator convenience	all inputs are checked by plausibility check. Therefore, wrong inputs should be avoided.		
	The operator can display a detailed help text for any input option.		
Operation languages	DE, US		
Software languages	DE, US, IT, FR		
Design & production	Made in Germany – Premium Quality		

Variants	•		the tester into an inclined			
		rack-mount device: optional mounting kit for installation in a 19"-cabinet				
Working environment		working temperature 0° to 50° C / 32° to 104° F, designed for a relative humidity of 0 to 80% rF without condensation!				
Storage		storage temperature -10° to 60° C / 14° to 140° F, designed for a relative humidity of 0 to 90%rF				
Calan	without condensation!					
Color Weight + dimensions	RAL 7035	Fueles 1/ 40!!	Frederius full 40ll	Moight / La	Maicht / III	
AACIBUL I MILICUSIONS	GLP1-g 120	Enclosure ½ 19" x	Enclosure full 19"	Weight / kg 7,5	Weight / Ibs 16,5	
	GLP1-g 120 GLP1-g 130	x x		7,5 11,8	16,5 26,0	
	GLP1-g 140	*	x	14,0	30,9	
	GLP1-g 141		x	7,0	15,4	
	GLP1-g 160		x	17,5	38,6	
	GLP1-g 220	х		6,5	14,3	
	GLP1-g 320	х		9,8	21,6	
	GLP1-g 321	х		9,8	21,6	
	GLP1-g 330	х		15,0	33,1	
	GLP1-g 331	X		15,0	33,1	
	GLP1-g 340		x	27,0	59,5	
	GLP1-g 341		x	27,0	59,5	
	GLP1-g 350		x	24,0	52,9	
	GLP1-g 360	x		28,0	61,7	
	GLP1-g 370	x		31,2	68,8	
	GLP1-g 380	х		6,5	14,3	
	GLP1-g 620	х		6,5	14,3	
	GLP1-g 630	х		11,8	26,0	
	GLP1-g 720	х		9,8	21,6	
	GLP1-g 730	X		15,0	33,1	
	GLP1-g 820	Х		6,5	14,3	
	GLP1-g 830	X		6,5	14,3	
	GLP1-g 831		X	7,0	15,4	
	GLP1-g 840		Х	7,5	16,5	
	GLP1-g 920	X		10,0	22,0	
	GLP1-g 930	X		11,5	25,4	
	GLP1-g 1011	X		10,8	23,8	
	GLP1-g 1012	X	v	10,8	23,8	
	GLP1-g 1020	v	Х	17,8 16.0	39,2	
	GLP1-g 1021	X		16,0 16.0	35,3 35,3	
	GLP1-g 1022 GLP1-g 1030	Х	v	16,0 16,5	35,3 36,4	
	GLP1-g 1030 GLP1-g 1031		X Y	16,5	36,4 36,4	
	GLP1-g 1031 GLP1-g 1032		x x	16,5	36,4 36,4	
	GLP1-g 1032 GLP1-g 1040		x x	22,0	48,5	
	GLP1-g 1040 GLP1-g 1041		X	21,0	46,3	
	GLP1-g 1042		x	21,0	46,3	
	GLP1-g 1122	x	^	11,8	26,0	
	GLP1-g 1130	x		11,8	26,0	
	GLP1-g 1220	••	x	17,0	37,5	
	GLP1-g 1221		x	15,7	34,6	
	GLP1-g 1222		X	16,0	35,3	
	GLP1-g 1224		X	18,5	40,8	
	GLP1-g 1225		x	17,5	38,6	
	GLP1-g 1226		X	17,5	38,6	
	GLP1-g 1230		x	22,2	48,9	
	GLP1-g 1231		x	21,2	46,7	
	GLP1-g 1232		x	21,2	46,7	
	GLP1-g 1320	x		13,8	30,4	
	GLP1-g 1520		x	18,5	40,8	
	GLP1-g 1530		X	23,9	52,7	
	GLP1-g 1720	Х		6,5	14,3	

Dimensions ½ 19" (W x D x H): 236 x 320 x 178 mm / 9,3" x 12,6" x 7,0" Dimensions full 19" (W x D x H): 448 x 320 x 178 mm / 17,6" x 12,6" x 7,0"

¹⁾ Design of the test connections is freely configurable when order is placed

²⁾ If industrial plug connection on the rear side of the tester is ordered, the test socket and/or connection for test probe are omitted

³⁾ Key lock only for testers with dangerous test voltages and/or dangerous test currents

Earth / Ground-bond resistance test AC GLP1-g

TEST CURRENT AC			
Test current max.	GLP1-g 120 : 10 A ac, adjustable from 1 A in steps of 1 A GLP1-g 130 : 30 A ac, adjustable from 1 A in steps of 1 A GLP1-g 140 : 40 A ac, adjustable from 1 A in steps of 1 A		
	GLP1-g 150 : 75 A ac, adjustable fro	om 1 A in steps of 1 A	
Output frequency	47 to 63 Hz, depending on mains supply		
Current control	automatic electronic constant current control with minimum current control and current interruption detec		
Setting	default current + 0.5 A		
VOLTAGE			
Test voltage max.	6 / 12 V ac, selectable by operator, with automatic maximum voltage limitation		
RESISTANCE			
Accuracy	high-precision 4-wire resistance me	easurement	
Measuring range total	0 to 1200 m Ω , depending on the flowing test current and the permitted maximum test voltage		
Resolution	1 mΩ or 100 mV		
Resistance measurement fromto	0 to 600 mΩ at 6 V and 10 A	0 to 1200 mΩ at 12 V and 10 A	
	0 to 200 m Ω at 6 V and 30 A	0 to 400 m Ω at 12 V and 30 A	
	0 to 150 m Ω at 6 V and 40 A	0 to 300 m Ω at 12 V and 40 A	
	0 to 80 m Ω at 6 V and 75 A	0 to 160 m Ω at 12 V and 75 A	
Milli ohm offset range	0 to 300 mΩ		
Measuring accuracy	$\pm 0.25\%$ of the final value $\pm 1~\text{m}\Omega$		
EVALUATION			
Evaluation related to	resistance or voltage drop		
Upper resistance limit PE _{Rmax}	0 to 1200 m Ω freely definable, measured values equal to or under this limit are OK		
or	or alternately		
upper voltage limit PE _{Umax}	0 to 12 V freely definable, measured values equal to or under this limit are OK		
Lower resistance limit PE _{Rmin}	freely definable, measuring values under this limit are NOT OK		
or lower voltage limit	This function serves for contact control. This function can be deactivated.		
	The lower resistance limit is smaller than the upper limit		
Undercurrent	If the test current is smaller than the	ne default value during test process, the test result is NO GO	
GENERAL			
Test timer	0, 0.5 s, 0.6 s, 0.7 s to 1 h in steps of	of 0.1 s	
	Exception: Test device with 30 A and probe connection on the front		
	Applies the equipment: 120, 130, 620, 630, 1011, 1012, 1021, 1022, 1030, 1031, 1032, 1041, 1042, 1122,		
	1130, 1221, 1222, 1225, 1226, 1231, 1232, 1320, 1520 and 1720		
	If test current exceeds 10 A ther	test duration is max. 180 s!	
Measuring technique of U & I	high-precision TRMS-measuremen		

Earth/Ground-bond resistance test DC GLP1-g

<u> </u>			
TEST CURRENT DC			
Test current max.	40 A dc, beginning from 1 A adjustable in steps of 1 A		
Current control	automatic electronic constant- current control with minimum-current control and current-interruption detected		
Setting	default current + 0.5 A		
VOLTAGE			
Test voltage max.	6 / 12 V ac, selectable by operator, with automatic maximum voltage limitation		
RESISTANCE			
Accuracy	high-precision 4-wire resistance me	easurement	
Total measuring range	0 to 6 Ω , depending on the flowing	test current	
Resolution	1 m Ω or 10 mV		
Resistance measurement fromto	0 to 600 m Ω at 6 V and 10 A	0 to 1200 m Ω at 12 V and 10 A	
	0 to 300 m Ω at 6 V and 20 A	0 to 600 m Ω at 12 V and 20 A	
	0 to 150 m Ω at 6 V and 40 A	0 to 300 m Ω at 12 V and 40 A	
	0 to 6000 m Ω at 6 V and 1 A	0 to 6000 m Ω at 12 V and 2 A	
Milliohm offset range	0 to 300 mΩ		
Measuring accuracy	$\pm 0.25\%$ of the final value $\pm 1~\text{m}\Omega$		
EVALUATION			
Evaluation related to	resistance or voltage drop		
Upper resistance limit PE _{Rmax}	0 to \leq 6 Ω freely definable, measured values equal to or under this limit are OK		
Lower resistance limit PE _{Rmin}	freely definable, measured values under this limit are NOT OK		
	This function serves for contact control. This function can be deactivated.		
	The lower resistance limit is always	s smaller than the upper limit	
Undercurrent	If test current is under the default value, test result is NO GO		
GENERAL			
Test timer	0, 0.5 s, 0.6 s, 0.7 s to 1 h in steps of 0.1 s		
Measuring technique of U & I	high-precision averaging measurement		

Insulation resistance test for devices with max. 1000 V GLP1-g

TEST VOLTAGE			
Test voltage	50 to 1000 V dc, adjustable in steps of 10V		
Voltage control	automatic electronic constant-voltage control with under-voltage control		
Setting	default value + 5 V		
CURRENT			
Test current max.	2 to 3 mA dc, safety current limiting		
Output power	max. 2 W		
RESISTANCE			
Measuring range	500 kΩ to 250 MΩ		
	500 kΩ to 10 GΩ		
Resolution	100 kΩ		
Measuring accuracy	up to 10 M Ω : ±0.5% of final value ±100 k Ω at a test voltage of min. 500 V		
	up to 250 M Ω : $\pm 0.75\%$ of final value ± 100 k Ω at a test voltage of min. 500 V		
	up to 10 G Ω : $\pm 0.5\%$ of final value ± 100 k Ω at a test voltage of min. 500 V		
EVALUATION			
Lower resistance limit Iso _{Rmin}	250 k Ω to 250 M Ω freely definable, measured values equal to or over this limit are OK		
	from Q1/2017: 250 k Ω to 10 G Ω freely definable, measured values equal to or over this limit are OK		
Upper resistance limit Iso _{Rmax}	250 k Ω to 250 M Ω freely definable, measured values above this limit are NOT OK		
	from Q1/2017: 250 k Ω to 10 G Ω freely definable, measured values above this limit are NOT OK		
	This function serves for contact control. This function can be deactivated.		
	The upper resistance limit is always higher than the lower limit		
Undervoltage	If test voltage is under the default value, the test result is NO GO		
GENERAL			
Test timer	0.5 s, 0.6 s, 0.7 s to 1 h in steps of 0.1 s		
Ramp up timer (increase voltage)	0.5 s, 0.6 s, 0.7 s to 1 h in steps of 0.1 s		
Measuring technique of U & I	high-precision averaging measurement		
Discharge	≤200 ms, for a test object with a purely ohmic insulation resistance		
	T = R x C, typical discharge time approx. 5 x T (R = discharge resistance, C = test object capacitance)		
	provided that: the test connections have still to be connected with the test object during discharge process.		
Discharge resistor	470 KΩ for IR with max. 1000 V test voltage		
Residual voltage test	The test (test step) is only finished, when output voltage decreased under 60 V.		
Internal resistance	500 kΩ at IR with max. 1000 V test voltage		
	charge time of test object depends on the internal resistance		
	min. charge time = internal resistance x capacity of test object [s]		
Test points	L&N ↔ PE in the test socket or L&N ↔ test probe		

Insulation resistance test for devices HV DC > 1000 V GLP1-g

TEST VOLTAGE		
Test voltage	GLP1-g 820 : 50 to 4000 V dc, adjustable in steps of 10 V	
	GLP1-g 830 : 50 to 6000 V dc, adjustable in steps of 10 V	
	GLP1-g 831 : 50 to 6000 V dc, adjustable in steps of 10 V	
	GLP1-g 840 : 100 to 10000 V dc, adjustable in steps of 10 V	
Voltage control	automatic electronic constant-voltage control with under-voltage control	
Setting	default value + 5 V	
CURRENT		
Test current max.	GLP1-g 820 : 10 mA dc, safety current limiting	
	GLP1-g 830 : 10 mA dc, safety current limiting	
	GLP1-g 831 : 20 mA dc, no safety current limiting	
	GLP1-g 840 : 6 mA dc, safety current limiting	
RESISTANCE		
Measuring range	500 kΩ to 1000 MΩ	
Resolution	100 kΩ	
Measuring accuracy	up to 10 M Ω : $\pm 0.5\%$ of the final value ± 100 k Ω at a test voltage of min. 500 V	
	up to 10 G Ω : $\pm 0.5\%$ of the final value ± 100 k Ω at a test voltage of min. 500 V	
EVALUATION		
Lower resistance limit Iso _{Rmin}	500 k Ω to 10 G Ω freely definable, measured values equal to or above this limit are OK	
Upper resistance limit Iso _{Rmax}	500 k Ω to 10 G Ω freely definable, measured values above this limit are not ok	
	This function serves for contact control. This function can be deactivated	
	The upper resistance limit is always higher than the lower limit	
Undervoltage	If test voltage is smaller than the default value, the test result is NO GO	
GENERAL		
Test timer	0.5 s, 0.6 s, 0.7 s to 1 h in steps of 0.1 s	
Ramp up timer (increase voltage)	0.5 s, 0.6 s, 0.7 s to 1 h in steps of 0.1 s	
Measuring technique of U & I	high-precision averaging measurement	
Discharge	≤200 ms, for a test object with a purely ohmic insulation resistance	
S .	T = R x C, typical discharge time approx. 5 x T (R = discharge resistance, C = test object capacitance)	
	provided that: the test connections have still to be connected with the test object during discharge process	
Discharge resistor	for IR with tester max. 4 kV: 470 k Ω	
	for IR with tester max. 6 kV: 33 k Ω	
	for IR with tester max. 10 kV: 33 k Ω	
Residual voltage test	The test (test step) is only finished, when output voltage decreased under 60 V	
Test points	L&N ↔PE in the test socket or L&N ↔test probe	

High-voltage test AC GLP1-g

TEST VOLTAGE	
Test voltage and resolution	GLP1-g 320 : 50 to 6000 V ac potential-free @ 3 mA, resolution 1 V
	GLP1-g 330 : 50 to 6000 V ac potential-free @ 100 mA, resolution 1 V, ≥500 VA
	GLP1-g 340 : 50 to 6000 V ac potential-free @ 200 mA, resolution 1 V, 1000 VA
	GLP1-g 350 : 100 to 12000 V ac potential-free @ 100 mA, resolution 1 V, 1000 VA
	GLP1-g 360: 125 to 15000 V ac not potential-free @ 50 mA, resolution 10 V
	GLP1-g 370 : 250 to 30000 V ac not potential-free @ 30 mA, resolution 50 V
Malla and all relationship	GLP1-g 380 : 400 to 50000 V ac not potential-free @ 25 mA, resolution 50 V
Voltage adjustment	manual adjustment: adjustable in steps of 1 V
Voltage control	automatic presetting: adjustable in steps of 10 V
Tolerance of setting	automatic electronic constant-voltage control with under-voltage control default value + 5V
Voltage measurement	true r.m.s value or peak value, selectable by operator
Measuring accuracy	devices up to 12 kV: ±0.25% of the final value
iviedsuring accuracy	devices up to 50 kV: ±1% of the final value
Output frequency	47 to 63 Hz, depending on mains supply
outputequee,	, to so (12) aspertantly of mains suppri
CURRENT	
Test current and resolution	GLP1-g 320 : 3 mA, resolution 10 µA, safety current limiting with redundant overcurrent evaluation!
	Active safety current limiting – not via resistors!
	GLP1-g 330 : 100 mA, resolution 10 μA
	$I_{ksc} \ge 100 \text{ mA from } \ge 500 \text{ V}, \ge 500 \text{ VA according to VDE, EN and IEC standards}$
	I _{sc} ≥ 200 mA from ≥ 900 V, according to VDE, EN and IEC standards
	I _{sc} = short circuit current
	GLP1-g 340 : 200 mA, resolution 10 μA
	GLP1-g 350 : 100 mA, resolution 10 µA
	GLP1-g 360 : 50 mA, resolution 10 µA
	GLP1-g 370 : 30 mA, resolution 10 µA
Current measurement and evaluation	GLP1-g 380 : 25 mA, resolution 10 µA true r.m.s value or peak value measurement, selectable by operator
Current measurement and evaluation	total current or active current, selectable by operator
Measuring accuracy	devices up to 3 mA: ±0.5% of the final value ±0.01 mA
weasuring accuracy	devices from 25 mA up to 200 mA: ±0.25% of the final value ±0.1 mA
EVALUATION	
Upper current limit / Imax	0 to max. test current (depending on tester model), measured values equal to or under this limit are OK
Lower current limit / Imin	0 to max. test current (depending on tester model), measured values under this limit are NOT OK
	This function serves for contact control. This function can be deactivated
	The upper current limit is always higher than the lower limit
Undervoltage	If test voltage is smaller than the default value, the test result is NO GO
Error signal	optic and acoustic
GENERAL	
Test timer	0, 0.5 s, 0.6 s, 0.7 s to 100 h in steps of 0.1 s, mode: auto=test timer, mode: manual = continuous operation
Ramp up timer	0, 0.5 s, 0.6 s, 0.7 s to 100 h in steps of 0.1 s (0 = without ramp up)
Ramp down timer	0, 0.5 s, 0.6 s, 0.7 s to 100 h in steps of 0.1 s (0 = without ramp down)
Measurement technique of U & I	high-precision true r.m.s value or peak value measurement (V _{TRMS} - V _{Peak} - I _{TRMS} - I _{Peak})
Operating modes	4
Manual	The voltage is manually adjusted with the rotary knob. Test is performed without timer.
	Shutdown at overcurrent
Automatic	The voltage is automatically adjusted. Test is performed with timer.
	Shutdown at overcurrent or current outside the minimum / maximum limits.
Burning	The voltage is manually adjusted with the rotary knob. Test is performed without timer.
only at 6 kV to 20, 100 and 200mA	No shutdown at overcurrent. The test current is electronically limited to max. 100 mA.
Pulsing	The voltage is manually adjusted with the rotary knob. Test is performed without timer.
not at 6 kV to 3 mA	Shutdown at overcurrent for 0.5 s. Test current is electronically limited to max. 100 mA.
Discharge	0 to 100 ms
	provided that: the test connections have still to be connected with the test object during discharge process
Residual voltage test	The test (test step) is only finished, when output voltage decreased under 60 V

High-voltage test DC GLP1-g

TEST VOLTAGE	
Test voltage and resolution	GLP1-g 820 : 50 to 4000 V dc not potential-free @ 10 mA, resolution 1 V
	negative pole PE (Earth - Ground)
	GLP1-g 830 : 50 to 6000 V dc not potential-free @ 10 mA, resolution 1 V
	negative pole PE (Earth - Ground)
	GLP1-g 831 : 50 to 6000 V dc not potential-free @ 20 mA, resolution 1 V
	negative pole PE (Earth - Ground))
	GLP1-g 840: 100 to 10000 V dc not potential-free @ 6 mA, resolution 1 V
B' and a	negative pole PE (Earth - Ground)
Ripple	GLP1-g 820 : ±0.75% Uout at 10 mA full load
	GLP1-g 830 : ±0.5% Uout at 10 mA full load
	GLP1-g 831 : ±0.5% Uout at10 mA full load
Voltago adjustment	GLP1-g 840 : ±0.5% Uout at 6 mA full load manual adjustment: adjustable in steps of 1 V
Voltage adjustment	automatic presetting: adjustable in steps of 10 V
Voltage control	automatic electronic constant-voltage control with under-voltage control
Tolerance of setting	approx. 5 to 10 V above the default value, from no load to full load
Voltage measurement	average value
Measuring accuracy	±0.25% of the final value ±5 V
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CURRENT	
Test current	GLP1-g 820 : 10 mA, safety current limiting
	GLP1-g 830 : 10 mA, safety current limiting
	GLP1-g 831 : 20 mA, safety current limiting
	GLP1-g 840 : 6 mA, s safety current limiting
Resolution	1 μΑ
Current measurement and evaluation	average value
Measuring accuracy	$\pm 0.1\%$ of the final value $\pm 1~\mu\text{A}$
INSULATION RESISTANCE	
Please see	max. $1\mathrm{G}\Omega$
. rease see	
EVALUATION	
Upper current limit / Imax	0 to max. test current (depending on tester model), measured values equal to or under this limit are OK
Upper current limit / Imax Lower current limit / Imin	0 to max. test current (depending on tester model), measured values equal to or under this limit are OK 0 to max. test current (depending on tester model), measured values under this limit are NOT OK
• •	· · · · · · · · · · · · · · · · · · ·
• •	0 to max. test current (depending on tester model), measured values under this limit are NOT OK
• •	O to max. test current (depending on tester model), measured values under this limit are NOT OK This function serves for contact control. This function can be deactivated The lower current limit is always higher than the upper limit If test voltage is smaller than the default value, the test result is NO GO.
Lower current limit / Imin	0 to max. test current (depending on tester model), measured values under this limit are NOT OK This function serves for contact control. This function can be deactivated The lower current limit is always higher than the upper limit
Lower current limit / Imin Undervoltage Error signal	O to max. test current (depending on tester model), measured values under this limit are NOT OK This function serves for contact control. This function can be deactivated The lower current limit is always higher than the upper limit If test voltage is smaller than the default value, the test result is NO GO.
Lower current limit / Imin Undervoltage Error signal GENERAL	O to max. test current (depending on tester model), measured values under this limit are NOT OK This function serves for contact control. This function can be deactivated The lower current limit is always higher than the upper limit If test voltage is smaller than the default value, the test result is NO GO. optic and acoustic
Lower current limit / Imin Undervoltage Error signal GENERAL Test timer	0 to max. test current (depending on tester model), measured values under this limit are NOT OK This function serves for contact control. This function can be deactivated The lower current limit is always higher than the upper limit If test voltage is smaller than the default value, the test result is NO GO. optic and acoustic 0, 0.5 s, 0.6 s, 0.7 s to 100 h in steps of 0.1 s, mode: auto=test timer, mode: manual=continuous operation
Undervoltage Error signal GENERAL Test timer Ramp timer – ramp up	0 to max. test current (depending on tester model), measured values under this limit are NOT OK This function serves for contact control. This function can be deactivated The lower current limit is always higher than the upper limit If test voltage is smaller than the default value, the test result is NO GO. optic and acoustic 0, 0.5 s, 0.6 s, 0.7 s to 100 h in steps of 0.1 s, mode: auto=test timer, mode: manual=continuous operation 0, 0.5 s, 0.6 s, 0.7 s to 100 h in steps of 0.1 s (0 = ramp up off)
Undervoltage Error signal GENERAL Test timer Ramp timer – ramp up Ramp timer – ramp down	0 to max. test current (depending on tester model), measured values under this limit are NOT OK This function serves for contact control. This function can be deactivated The lower current limit is always higher than the upper limit If test voltage is smaller than the default value, the test result is NO GO. optic and acoustic 0, 0.5 s, 0.6 s, 0.7 s to 100 h in steps of 0.1 s, mode: auto=test timer, mode: manual=continuous operation 0, 0.5 s, 0.6 s, 0.7 s to 100 h in steps of 0.1 s (0 = ramp up off) no timer, ramp down only with the internal discharge resistor, this is not a linear ramp but an e-function
Undervoltage Error signal GENERAL Test timer Ramp timer – ramp up Ramp timer – ramp down Measurement technique of U & I	0 to max. test current (depending on tester model), measured values under this limit are NOT OK This function serves for contact control. This function can be deactivated The lower current limit is always higher than the upper limit If test voltage is smaller than the default value, the test result is NO GO. optic and acoustic 0, 0.5 s, 0.6 s, 0.7 s to 100 h in steps of 0.1 s, mode: auto=test timer, mode: manual=continuous operation 0, 0.5 s, 0.6 s, 0.7 s to 100 h in steps of 0.1 s (0 = ramp up off) no timer, ramp down only with the internal discharge resistor, this is not a linear ramp but an e-function high-precision average value or peak value measurement (VAVG - VPeak - IAVG - IPeak)
Undervoltage Error signal GENERAL Test timer Ramp timer – ramp up Ramp timer – ramp down	0 to max. test current (depending on tester model), measured values under this limit are NOT OK This function serves for contact control. This function can be deactivated The lower current limit is always higher than the upper limit If test voltage is smaller than the default value, the test result is NO GO. optic and acoustic 0, 0.5 s, 0.6 s, 0.7 s to 100 h in steps of 0.1 s, mode: auto=test timer, mode: manual=continuous operation 0, 0.5 s, 0.6 s, 0.7 s to 100 h in steps of 0.1 s (0 = ramp up off) no timer, ramp down only with the internal discharge resistor, this is not a linear ramp but an e-function high-precision average value or peak value measurement (VAVG - VPeak - IAVG - IPeak) ≤200 ms, for a test object with a purely ohmic insulation resistance
Undervoltage Error signal GENERAL Test timer Ramp timer – ramp up Ramp timer – ramp down Measurement technique of U & I	0 to max. test current (depending on tester model), measured values under this limit are NOT OK This function serves for contact control. This function can be deactivated The lower current limit is always higher than the upper limit If test voltage is smaller than the default value, the test result is NO GO. optic and acoustic 0, 0.5 s, 0.6 s, 0.7 s to 100 h in steps of 0.1 s, mode: auto=test timer, mode: manual=continuous operation 0, 0.5 s, 0.6 s, 0.7 s to 100 h in steps of 0.1 s (0 = ramp up off) no timer, ramp down only with the internal discharge resistor, this is not a linear ramp but an e-function high-precision average value or peak value measurement (VAVG - VPeak - IAVG - IPeak) ≤200 ms, for a test object with a purely ohmic insulation resistance T = R x C, typical discharge time approx. 5 x T (R = discharge resistance, C = test object capacitance)
Undervoltage Error signal GENERAL Test timer Ramp timer – ramp up Ramp timer – ramp down Measurement technique of U & I Discharge	0 to max. test current (depending on tester model), measured values under this limit are NOT OK This function serves for contact control. This function can be deactivated The lower current limit is always higher than the upper limit If test voltage is smaller than the default value, the test result is NO GO. optic and acoustic 0, 0.5 s, 0.6 s, 0.7 s to 100 h in steps of 0.1 s, mode: auto=test timer, mode: manual=continuous operation 0, 0.5 s, 0.6 s, 0.7 s to 100 h in steps of 0.1 s (0 = ramp up off) no timer, ramp down only with the internal discharge resistor, this is not a linear ramp but an e-function high-precision average value or peak value measurement (VAVG - VPeak - IAVG - IPeak) ≤200 ms, for a test object with a purely ohmic insulation resistance T = R x C, typical discharge time approx. 5 x T (R = discharge resistance, C = test object capacitance) provided that: the test connections have still to be connected with the test object during discharge process
Undervoltage Error signal GENERAL Test timer Ramp timer – ramp up Ramp timer – ramp down Measurement technique of U & I	0 to max. test current (depending on tester model), measured values under this limit are NOT OK This function serves for contact control. This function can be deactivated The lower current limit is always higher than the upper limit If test voltage is smaller than the default value, the test result is NO GO. optic and acoustic 0, 0.5 s, 0.6 s, 0.7 s to 100 h in steps of 0.1 s, mode: auto=test timer, mode: manual=continuous operation 0, 0.5 s, 0.6 s, 0.7 s to 100 h in steps of 0.1 s (0 = ramp up off) no timer, ramp down only with the internal discharge resistor, this is not a linear ramp but an e-function high-precision average value or peak value measurement (V _{AVG} - V _{Peak} - I _{AVG} - I _{Peak}) ≤200 ms, for a test object with a purely ohmic insulation resistance T = R x C, typical discharge time approx. 5 x T (R = discharge resistance, C = test object capacitance) provided that: the test connections have still to be connected with the test object during discharge process tester with max. 4 kV: 470 kΩ
Undervoltage Error signal GENERAL Test timer Ramp timer – ramp up Ramp timer – ramp down Measurement technique of U & I Discharge	0 to max. test current (depending on tester model), measured values under this limit are NOT OK This function serves for contact control. This function can be deactivated The lower current limit is always higher than the upper limit If test voltage is smaller than the default value, the test result is NO GO. optic and acoustic 0, 0.5 s, 0.6 s, 0.7 s to 100 h in steps of 0.1 s, mode: auto=test timer, mode: manual=continuous operation 0, 0.5 s, 0.6 s, 0.7 s to 100 h in steps of 0.1 s (0 = ramp up off) no timer, ramp down only with the internal discharge resistor, this is not a linear ramp but an e-function high-precision average value or peak value measurement (VAVG - VPeak - IAVG - IPeak) ≤200 ms, for a test object with a purely ohmic insulation resistance T = R x C, typical discharge time approx. 5 x T (R = discharge resistance, C = test object capacitance) provided that: the test connections have still to be connected with the test object during discharge process

Function test GLP1-g

TEST VOLTAGE			
Test voltage	12 to 250 V ac singe-phase potential-free via an integrated isolating transformer @ 5A		
Resolution	1 V		
Voltage adjustment	adjustable in steps of 1 V		
Voltage control	automatic electronic constant-voltage control with under-voltage and over-voltage control		
Tolerance of setting	default value + 3 V		
Voltage measurement	true r.m.s value		
Measurement accuracy	±0.25% of the final value ±1 V		
Output frequency	47 to 63 Hz, depending on mains supply		
CURRENT			
Test current	max. 5 A AC continuous current at 230 V supply voltage with 12 to 230 V test voltage		
	max. 5 A reduced to 4,6 A continuous current AC at 230 V supply voltage with a proportional reduction to the		
	test voltage from 230 V to 250 V		
	max. 5 A AC continuous current at 110 V supply voltage and 110 V test voltage		
	max. 5 A reduced to 2.2 A AC continuous current at 110 V supply voltage with a proportional reduction to the		
	test voltage from 110 V to 250 V		
Resolution	Range 1: 10 μA		
	Range 2: 1 mA		
Current measuring and evaluation	true r.m.s value		
Measurement accuracy	current measuring range 1: $100 \mu\text{A} - 70 \text{mA} \pm 0.25 \%$ of the final value $\pm 10 \mu\text{A}$		
,	current measuring range 2: 70 mA - 5 A ±0.25 % of the final value ±1 mA		
	integrated automatic switch over between the two current measuring ranges		
POWER			
Power	1150 VA maximum continuous power at 230 V @ 5 A		
	550 VA maximum continuous power at 110 V @ 5 A		
Resolution	0,1 VA or 0,1 W		
Power measurement and evaluation	VA or W		
Measurement accuracy	power measuring range 1:±0.5% of the final value 16 W ± 0,1 VA, respectively. ± 0,1 W		
,	power measuring range 2: ±0.5% of the final value 1150 W ± 1 VA, respectively ± 1 W		
	integrated automatic switch over between the two power measuring ranges		
EVALUATION	W, VA, cosφ		
Upper & lower limit	current: 0 to 5 A, measured values within the tolerance limits are OK		
±tolerance in % of the default value	power: 0 to 1150 W, measured values within the tolerance limits are OK		
	power Factor: 0 to 1, measured values within the tolerance limits are OK		
Undervoltage and overvoltage	If test voltage is smaller than -3 V of the default value, test result is NO GO		
	If test voltage is higher than +3 V of the default value, test result is NO GO		
Electronic short-circuit detection	continuously short-circuit proof with automatic electronic current limiting		
Error signal	optic and acoustic		
GENERAL			
	0, 0.5 s, 0.6 s, 0.7 s to 60 s in steps of 0.1 s (0 = off)		
	· · · · · · · · · · · · · · · · · · ·		
Starting delay timer	· · · · ·		
	0, 0.5 s, 0.6 s, 0.7 s to 1 h in steps of 0.1 s high-precision true r.m.s value measurement (V _{TRMS} - I _{TRMS})		

Glossary

<i></i>	
Adjustment	Correction of a measurement value, if the calibration showed too large a deviation.
Average value	The average value is calculated with direct voltages. It is the average of a number of test values.
Calibration	Regular annual inspection and documentation of the deviation compared to the reference value.
Condensation	Condensation means that moisture is produced at the inside or at the outside of the testing device. This must
	be avoided under all circumstances.
Current-interruption detector	Serves to check, whether the current is interrupted at the PE/GB-resistance test. In case of interruption and
	after the current is back, the test timer restarts automatically. This automatic process can be repeated up to
	three times.
DUT	Abbreviation for test object (Device Under Test)
DUT connection check	The DUT connection check serves to monitor, whether the DUT is correctly connected to the testing device.
GO	Short for "OK" (pass)
Limit (lower)	This is a value that must not be fallen below.
Limit (upper)	This is a value that must not be exceeded.
Measuring accuracy	The measuring accuracy refers to the measured value.
NO GO	Short for "not OK" (fail)
Peak value	The peak value of the sine wave is often relevant for the high-voltage test AC. Regardless of the positive or
	negative sign of the sine half wave, the indicated peak value is the highest measured.
RMS value	The RMS value is detected quickly and precisely following the exact mathematical definition. This is
	independent from the distortion of the sine signal. This is why SCHLEICH units always show the true RMS value
Safety inputs	The device is released via two safety inputs. This function is defined as two-circuit.

Further information

Further information

For further information please have a look on our homepage www.schleich.com

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