



- Full Colour Touchscreen Display
- 3 x Status LEDs
- 8 x Programmable LEDs
- Key Functions (optional)
- USB Connections as Standard
- Stainless Steel Housing
- Pluggable Connections
- Multi Lingual
- Customisable Menu Screens
- Self Diagnostic
- Control of 5 Switching Elements
- IEC61850, -103, Profibus, etc.
- SYMAP® Parameter Tool Software
- 4 x Parameter Sets
- 3 x Processors for Ultimate Reliability and Speed Off Operation
- All Protection Functions Included without Additional Costs
- Remote Display (optional)

SYMAP®-Compact+ Technical Data

Description	Specification	
Dimensions (H x W x D)	250 x 210 x 90 (mm)	
Cut Out (H x W)	232 x 192 (mm)	
Weight	2.6 kg	
Auxiliary Supply	24/48/60/110/220V DC; 110/230V AC	
Power Consumption	< 20 W	
Climatic Conditions	Operation	-20°C to +70°C
	Maximum	-40°C to +70°C
	Shipping	-40°C to +70°C
	Rel. Humidity	< 80 %
Housing	Front	IP54 (IEC529)
	Rear	IP20 (IEC529)
Max. Connections	Spring Terminals	Max. 1.5 mm
	Current Terminals	Max. 6 mm

Stucke Elektronik GmbH

Stucke Elektronik have designed and manufactured premium quality, high performance electronic devices in Hamburg since 1968. Our systems provide supervision, protection and control to ensure optimum reliability for your electrical supply. To guarantee the highest quality all our products are manufactured exclusively in Hamburg, Germany.

Stucke have been specialists in electronic protection systems for over 40 years. Our company is certified according to DIN EN ISO 9001:2008.

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Stucke Elektronik GmbH offers

- Future proof technical product solutions
- Full service support including on site commissioning
- In depth product training
- Efficient after sales support and service
- Ultra fast delivery times
- Subsidiaries and partners in key locations worldwide

Stucke Worldwide:

Düsseldorf · Stuttgart · Madrid · Lisbon · London · Treviso · Belgrade
St. Petersburg · Los Angeles · Panama City
Seoul · Ulsan · Shanghai · Singapore · Mumbai · Brisbane

SYMAP®-Compact+

Digital Protection and Control Relays
User-friendly, Flexible and Future Proof

Protection and Control for:

- Motors and Generators
- Transformers
- Transmission & Distribution Systems
- Mains Decoupling
(incl. G59/G10/BDEW/VDN)
- Feeders

The SYMAP®-Compact+ range of relays offer flexible digital protection and control for a wide range of LV and HV applications.

At the heart of the SYMAP is a large, full colour, touch screen display which quickly enables complete programming of all protection and control functions. Alternatively you can do this via PC using the standard USB connection. The fully programmable nature of these relays gives you an extremely versatile and cost effective solution for all switchgear applications.

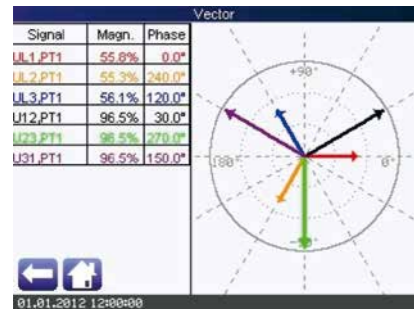
All SYMAP®-Compact devices are made in Germany.



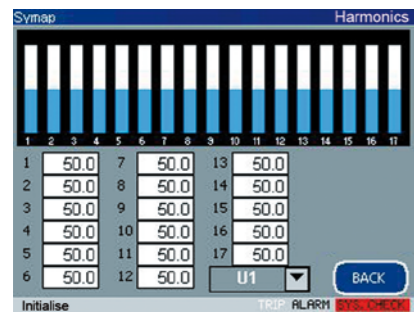
Stucke Elektronik GmbH
PROTECTION
MADE IN GERMANY
since 1968



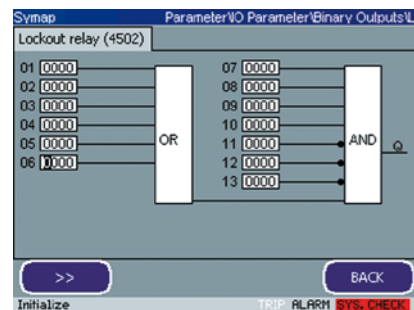
Trend Recorder



Vector Diagram



Harmonics



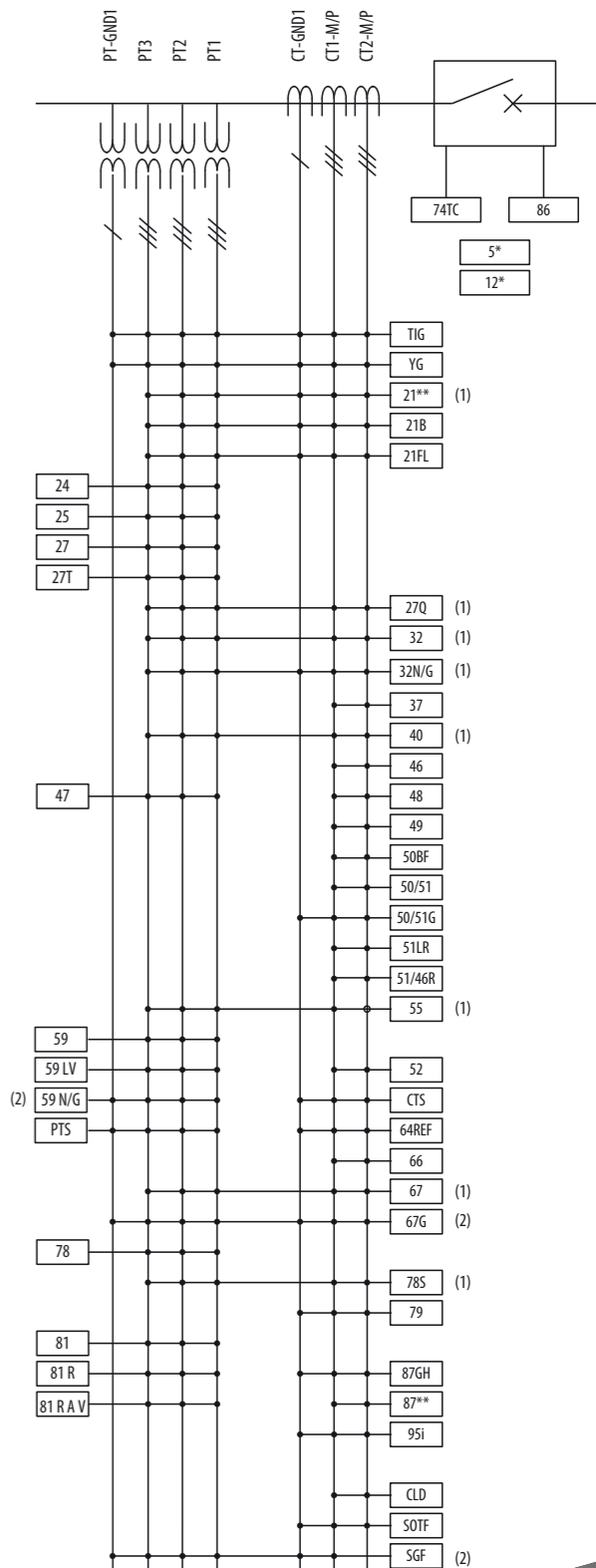
Programmable Logic Functions

Above are examples of SYMAP®-Compact+ display capabilities

SYMAB®-Compact+ Hardware-Versions	Compact+			
	F1	F2	F3	F4
HMI				
Full colour touchscreen display	•	•	•	•
Programmable Hotkeys	•	•	•	•
3 x Status LEDs	•	•	•	•
8 x programmable LEDs	•	•	•	•
Key Switch Function	(0)	(0)	(0)	(0)
Communication				
PROFIBUS DP	(0)	(0)	(0)	(0)
MODBUS, RS485/422	•	•	•	•
CANBUS 1	(0)	(0)	(0)	(0)
CANBUS 2	(0)	(0)	(0)	(0)
IEC 60870-5-103	(0)	(0)	(0)	(0)
IEC 61850	(0)	(0)	(0)	(0)
Inputs / Outputs				
Ethernet / MiniUSB (rear)	•	•	•	•
USB (front)	•	•	•	•
Digital Inputs	19	19	19	19
Relay Outputs	12	12	12	12
Analogue Inputs / Outputs				
Analogue Inputs 4-20 mA and 2 resistors	(4)	(4)	(4)	(4)
Analogue Output 4-20 mA	(2)	(2)	(2)	(2)
Analogue Output +/- 20mA	(2)	(2)	(2)	(2)
Analogue Output PWM or +/-10V	(1)	(1)	(1)	(1)
Analogue Inputs for Measurement and Protection				
Bus Current Inputs (x3)	•	•	•	•
Differential Current Outputs (x3)	(0)	(0)	(0)	(0)
Earth Fault Current Input (x1)	•	•	•	•
Feeder Voltage Input (x3)	-	-	•	•
BUS1 Voltage Inputs (x3)	-	-	-	•
BUS2 Voltage Inputs (x3)	-	-	-	•
Neutral Voltage Displacement Input (x1)	-	•	•	•
				(0) optional

SYMAB®-Compact+ Protective Functions	Compact+				avail.*	
	F1	F2	F3	F4		
	Scope of Supply					
21	Distance	-	-	(•)	(•)	o
21B	Generator backup protection	-	-	-	-	o
21FL	Fault locator	-	-	•	•	✓
24	Overexcitation (U/F)	-	-	•	•	o
25	Synchronizing	-	-	-	-	✓
27	Undervoltage protection	-	-	•	•	✓
27Q	Undervoltage- / Reactive power protection	-	-	•	•	✓
27T	Undervoltage protection, time-dependent	-	-	•	•	✓
32	Directional power protection	-	-	•	•	✓
32N/G	Zero power protection	-	•	•	•	✓
37	Undercurrent protection	•	•	•	•	o
40	Loss of Field	-	-	•	•	o
46	Negative Phase Sequence Current protection (NPS)	•	•	•	•	✓
46BC	Broken conductor: I2/I1	•	•	•	•	✓
47	Phase sequence / Phase Balance	-	-	•	•	o
48	Motor start-up monitoring: Incomplete sequence	-	-	•	•	o
49	Thermal replica	•	•	•	•	✓
50/51	Overcurrent protection	•	•	•	•	✓
50BF	Breaker Failure protection	•	•	•	•	✓
50/51G	Ground Overcurrent protection	•	•	•	•	✓
51LR	Locked Rotor	•	•	•	•	o
51MS	Motor start protection	•	•	•	•	o
51/46VR	Voltage restrained	-	-	•	•	✓
52	Pole disordance, e.g. phase segregated undercurrent supervision	•	•	•	•	o
55	Power factor protection	-	-	•	•	o
59	Overvoltage protection	-	-	•	•	✓
59N/G	Neutral Voltage Displacement (NVD)	-	•	•	•	✓
59LV	Low voltage: 10 minutes RMS-protection acc. to VDE-AR-N 4105	-	-	•	•	o
64REF	Restricted Earth Fault protection	•	•	•	•	✓
66	No. Of Starts (Motor)	•	•	•	•	o
67	Directional Overcurrent protection	-	-	•	•	✓
67G	Directional Ground Overcurrent protection	-	•	•	•	✓
74TC	Trip Circuit Supervision	•	•	•	•	✓
78	Vector Surge	-	-	•	•	✓
78S	Power Swing / Out-Of-Step	-	-	•	•	o
79	Automatic Reclose (AR)	•	•	•	•	✓
81	Frequency protection	-	-	•	•	✓
81R	RoCoF (df/dt)	-	-	•	•	✓
81RAV	Frequency supervised average (dF/dT)	-	-	•	•	o
86	Lockout relay	•	•	•	•	✓
87	Current Differential protection	(•)	(•)	(•)	(•)	✓
87GH	High impedance restricted ground fault protection	•	•	•	•	o
95i	Harmonics stabilizer	•	•	•	•	✓
G59	for ANSI 78 and 81R	-	-	(•)	(•)	✓
CLD	Cold Load Detection	•	•	•	•	✓
CTS	Current Transformer Supervision	•	•	•	•	✓
PTS	Potential Transformer Supervision	-	-	•	•	✓
SGF	100% Stator Ground Fault protection	-	•	•	•	o
SOTF	Switch On To Fault	•	•	•	•	✓
TIG	Transient/Intermittent Ground Fault protection	-	(•)	(•)	(•)	✓
YG	Neutral Admittance Ground Fault protection	-	(•)	(•)	(•)	✓

SYMAB®-Compact+ Protective Functions by ANSI



(1) depending on power measurement at common changeover
(2) measured or calculated

* Function for more models in development. Please request.
• SYMAP®-Compact+ for Applications without Differential Protection
o not yet available ✕ now available