Compact Signal Processing Systems

ME 3011 C

Power Station
Control Systems

Power Distribution
Control Systems

Control Room
Technology

**Automation
Equipment**

# Compact Signal Processing Systems ME 3011C

**ME 3011 C
with 60 Alarm Points**

**ME 3011 C
with 12 Alarm Points**
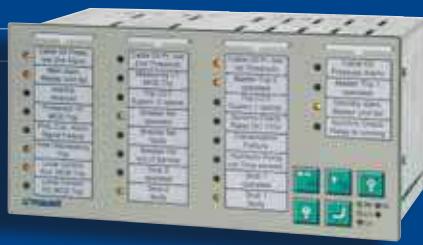
**ME 3011 C
with 28 Alarm Points**
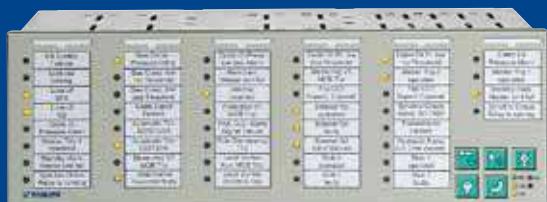
**ME 3011 C
with 44 Alarm Points**

Content
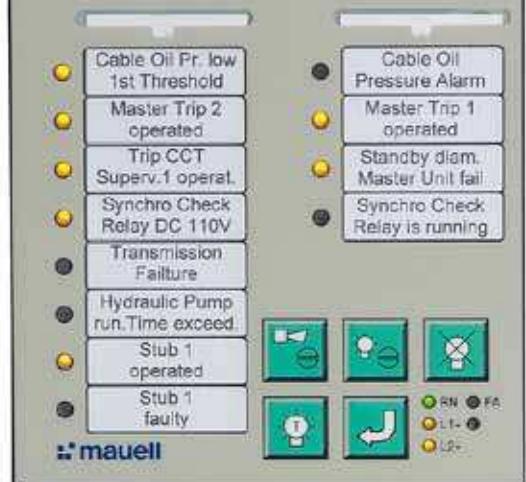
Compact Signal Processing System ME 3011 C with LED Display

The Compact Signal Processing System ME 3011 C member of our Electronic Alarm Indication Systems ME 3011 family is characterized by their small installation size and the high packing density of the available messages.

Devices are suitable for gapless stack mounting

ME 3011C with LED display

• Intelligent message processing, indication and transmission

• 12, 28, 44 or 60 alarm points

• Message indication on yellow LED display and internal horn (90 dB, 10 cm distance, 4 kHz)

• Different signaling sequences

• Input filter

• Time stamp, resolution 1 ms, query each 2.5 ms

• Event memory for 1,000 events

• Message texts on printed paper labels

• Message relaying with one floating NO contact for each alarm point

• Operation by means of front pushbuttons or external inputs

• Communication capability

Configuration and optional integrated communication interfaces round off the technical possibilities.
This annunciator can total be represent for software. Free ware e.Tool ME 3011 config presents ample functionality that facilitates its use, bringing to the user all the configuration possibilities of the product.

| ME 3011C				
Dimension W x H in mm				
12	28	44	60	**Alarm Points**
96 x 96	192 x 96	288 x 96	384 x 96	**Front Frame**
91 x 91	187 x 91	283 x 91	379 x 91	**Cutout**
Types				

Product Properties

Housing	robust metal housing
No. of alarm points	12, 28, 44 or 60 alarm points
Arrangement	gap less stack mounting
Mounting depth	127 mm for all housing versions
Terminals	plug-in spring terminals
Supply voltage	24 to 60 Vdc or 110 to 230 Vdc/ac and/or 110 to 220 Vdc redundant with power supply monitoring possible
Voltage monitor	one contact for each supply voltage
Message input voltage	24, 48, 60, 110 or 220 Vdc or 110, 127 or 230 Vac
Input filter	lower value 5 ms, programmable in steps of 2.5 ms from 5 to 600 ms
Configuration interface X5	RS 232 interface, protocol: Mauell (for configuration via PC)
Communication interface X3	RS 485 interface, protocol: Modbus RTU
Communication interface X1	RS 232 interface, protocol IEC 60870-5-101
Communication interface X2	Ethernet interface, protocol IEC 60870-5-104
Message memory	event memory for 1,000 events, with timestamp 1 ms, polling interval: 2.5 ms
Signaling	different ISA signaling methods
Flashing synchronization	integrated flashing synchronization input/output
Optical alarm indication	LEDs, color: Yellow
Message indication	easily replaceable paper labels
Message dissemination	one NO relay contact for each message, optional
Group message outputs	3 relays for groups messages or external horns, alarm indication contact
Potential separation	all interfaces galvanically isolated
Sound signal	internal horn
Operation	push buttons at the front or separate function inputs
Configuration software for free software download from our web site	configuration free ware e.Tool ME3011config.zip, internet http://www.mauell.com/Products/Automation Equipment/Compact Alarm Systems/ME 3011 Alarm Indication Systems
Optional	visualization e.Tool e-view

Technical Data

Compact Signal Processing System ME 3011C
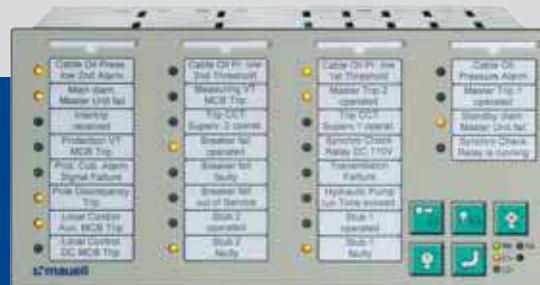
Supply Voltage

Option 1

Supply voltage (Standard)	24 to 60 Vdc, ± 20 %

Option 2

Supply voltage	110 to 230 Vac/dc, + 10 %, − 20 %

Option 3 — redundant contingent

Supply voltage	110 to 230 Vac/dc, + 10 %, − 20 %
and	110 to 220 Vdc, + 10 %, − 20 %
Power Supply Fault Detector PSFD	for Vdc and/or Vac (option)
Auxiliary voltage output	24 Vdc / 0,075 A

Alarm and Message Inputs

Inputs	12 up to 60
Potential separation	optocoupler
Input Voltages or or	24, 48 , 60 Vdc, ± 20 % 110, 220 Vdc, + 10 %, − 20 % 110, 127, 230 Vac, + 10 %, − 20 %
Input Current	4 mA (typical)
Input Filter	lower value = 5 ms, programmable in steps of 2.5 ms

External Push-Button

Station	24 Vdc
Potential separation	optocoupler

Functions

Sound Acknowledge (HA)

Light Acknowledge (LA)

Delete/Reset (RE)

Light Test / Function Test

Sleep Mode (SLM)	no indicator light
Keyboard OFF (KBOFF)	Button without function operation with ext. buttons
Flash synchronism	input/output
Flasher unit	24 Vdc
Minute pulse input	24 Vdc
Potential separation	optocoupler

Outputs

Flash synchronism	24 Vdc (flashing cycle)
Repeat relays for Power Supply Fault Detector Relays	1 contact for each PSFD (option) 3 freely programmable relays for various functions, e.g., external buzzer, voltage fault, alarm group, etc
Contact capacity	for resistive load: 30 Vdc/1 A; 120 Vdc/0,1 A; 250 Vac/0,5 A
Repeat relays (option)	1 NO contact for each alarm point
Contact capacity	for resistive load: 30 Vdc/1 A 240 Vdc/0,1 A, 250 Vac/2 A
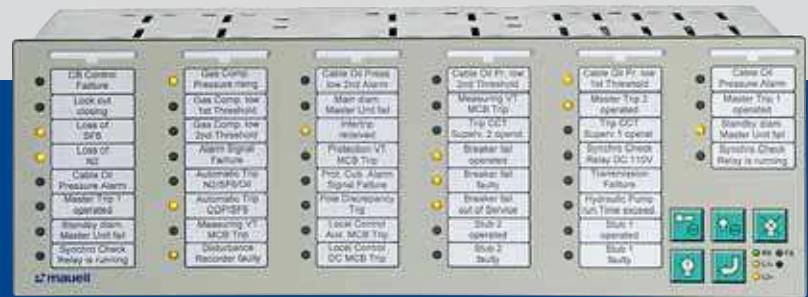
Interfaces

Configuration Communication X5	RS 232, standard
protocol	Mauell protocol
Communication Modbus interface X3, optional	RS 485 bi-directional Communication configu-rable
Baud rate	110 to 19.200
Parity	even, odd or non
Stop bit	1 or 2
Protocoll	Modbus RTU (Slave)
Communication interface X1 option	RS 232, max. 115 kBd
protocol	IEC 60870-5-101
Communication interface X2 option	Ethernet, 10/100 Base-Tx
protocol	IEC 60870-5-104

Event Register (Option)

Events	1,000 with timestamp
Resolution	1 ms, samples 2.5 ms

Visualization

Light Indication	
LED indicators	color: yellow
Flashing frequency	Fast: approx. 1.2 Hz Slow: approx. 0.4 Hz

Signalization

Integrated Horn	90 db/10 cm, 4 kHz

General

Alarm sequence	ISA 1, 1A, 1B, 2A, 2C, 4A, 4AR others on request
Environment	
Operation temperature	0 to + 55 °C
Storage temperature	– 20 to + 80°C
Relative Humidity	0 to 95 %, without con-densation
Protection class	Front IP40, Enclosure IP30
Isolation	IEC 60255-5, Kl2 2 kV, 50 Hz
Terminals core cross-section	Plug able connection
solid conductor	0,2 bis 2,5 mm^2
finely stranded conductor	0,2 bis 2,5 mm^2
with ferrules (DIN 46228)	0,25 bis 2,5 mm^2, Phönix Combicon FKC 2,5
Tropicalized type	special option, on request

Electromagnetic Compatibility

EM Emission	DIN EN 55011, Group 1, Cl A

Electromagnetic Influence

ESD	DIN EN 61000-4-2	
- air discharge method	4 kV	
- contact discharge method	8 kV	
EM HF-field	DIN EN 61000-4-3	3 V/m
Burst	DIN EN 61000-4-4	1 kV
Surge	DIN EN 61000-4-5	
	symmetrically	1 kV
	unsymmetrically	2 kV
RF Frequency Immunity	DIN EN 61000-4-6	3 V
Magnetic fields 50 Hz	durable	3 A/m
	non durable	30 A/m

Connector Pin Assignment
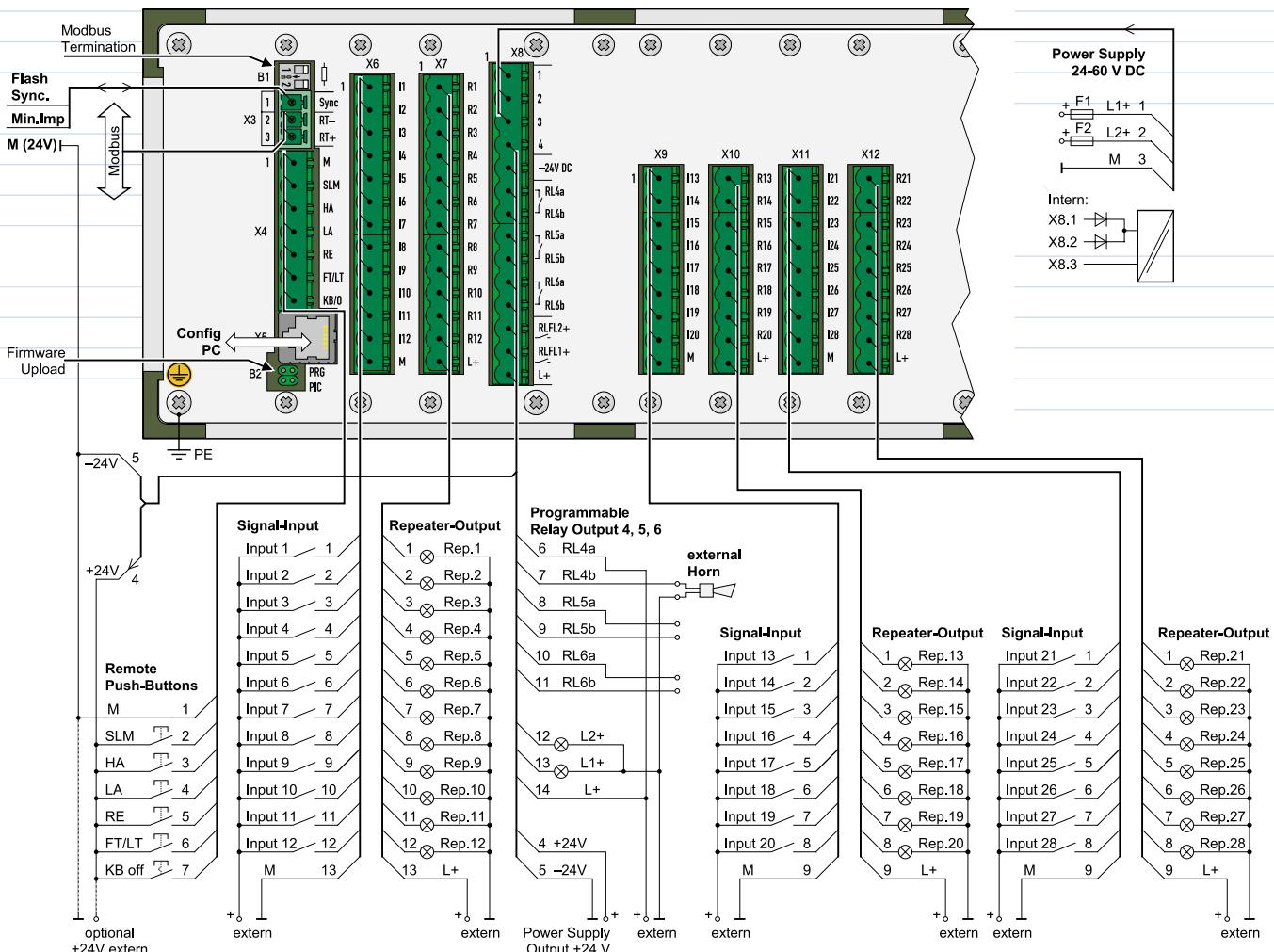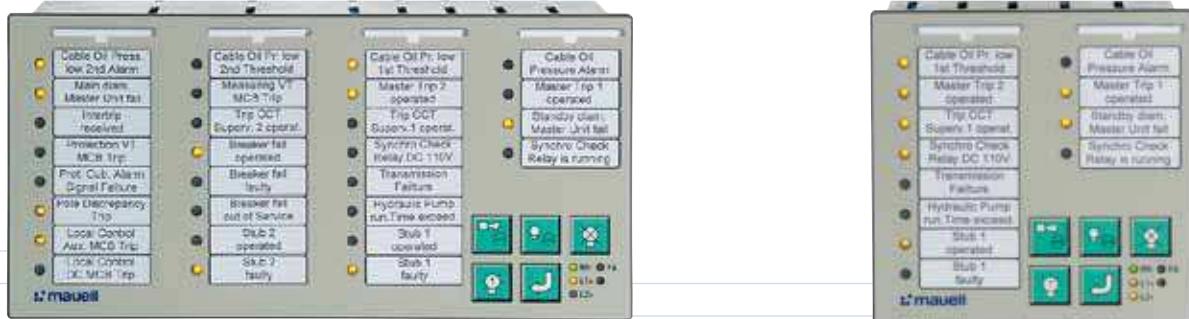
For each system a description of connection is available, which accompanies the device.

Software e.Tools,
Interfaces

This annunciator can total be represent for software. Free ware e.Tool ME 3011 config presents ample functionality that facilitates its use, bringing to the user all the configuration possibilities of the product.

ME 3011 brings powerful tools of dedicated supervision and control for applications in nets of indication systems.

With intelligent user and not complicated an interface of, e.Tool ME 3011 view brings to the screen annunciating virtual with information in real time, beyond register events with resolution 1 ms.
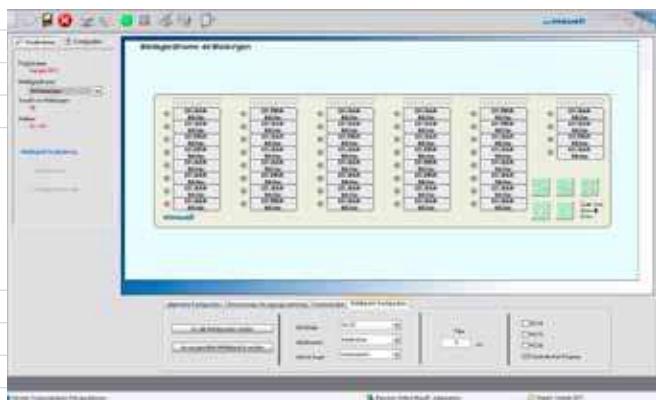
e.Tool ME 3011 config-screen
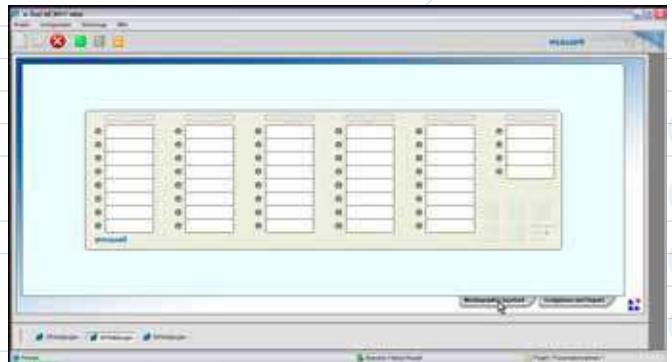
e.Tool ME 3011 view-screen
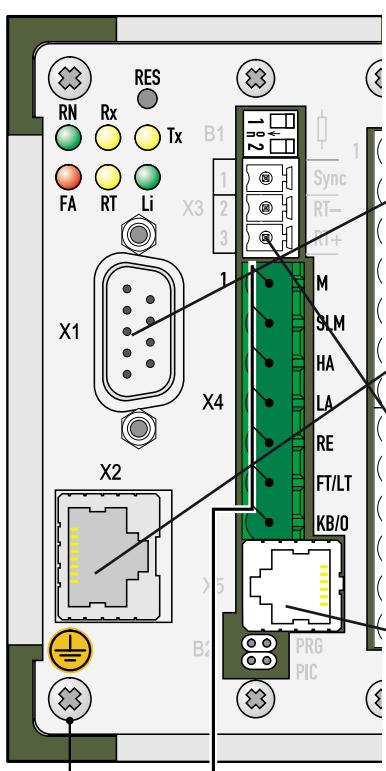
Interface X1 is an RS 232 interface with a protocol according to IEC 60870-5-101 (option)

Interface X2 is an Ethernet interface with a protocol according to IEC 60870-5-104 (option)

Interface X3 is an RS 485 interface with a protocol according to Modbus RTU (option)

Interface X5 is an RS 232 interface for the configuration of the Compact Signal Processing System with our free ware tool „e.Tool ME 3011 config" (standard)

Measuring VT MCB Trip

Master Trip 2 operated

Master Trip 1 operated

Trip CCT Superv. 2 operat.

Trip CCT Superv. 1 operat.

Standby diam. Master Unit fail

Breaker fail operated

Synchro Check Relay DC 110V

Synchro Check Relay is running

Breaker fail faulty

Transmission Failture

Breaker fail out of Service

Hydraulic Pump run.Time exceed.

Stub 2 operated

Stub 1 operated

Stub 2 faulty

Stub 1 faulty

RN FA
LI-
L2+

Application Emergency Alarm System

Net Control Station

Router

Diagnosis

optional IEC 60870-5-101

Group Messages

**Ethernet TCP/IP
Network Protocol IEC 60870-5-104**

Emergency System 02

Emergency System 01

Modbus RTU

Modbus RTU

Substation 22

Substation 21

Substation 11

Substation 12

Substation 13
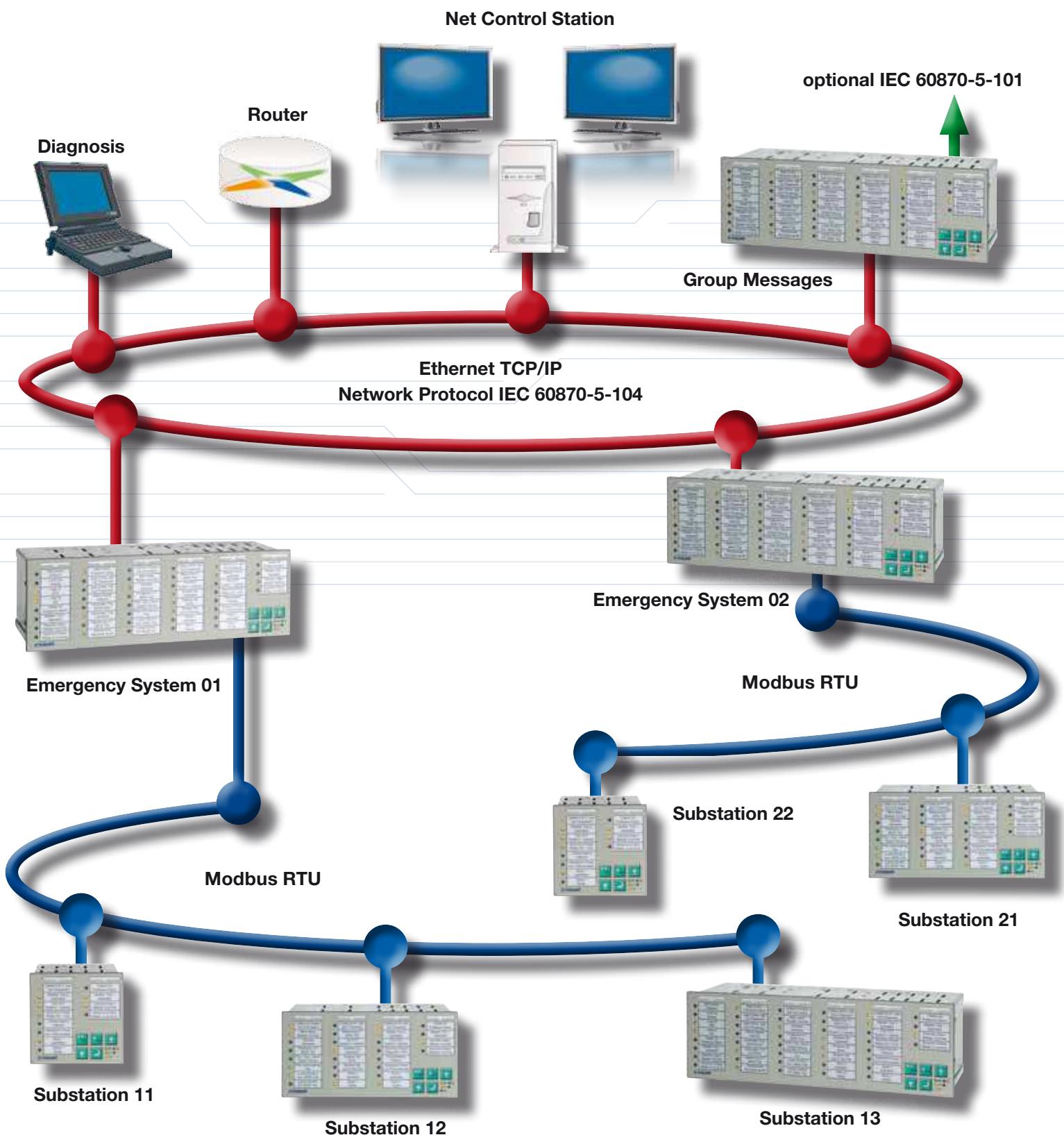
Signaling Sequences

The ME 3011 can be configured in order to comply with 16 signaling sequences. Among them the most important are the following:

ISA-RP 18.1/(ISA-S18.1)

ISA-1/(A), ISA-1A/(A-5), ISA-1B/(A-4), ISA-2A/(R-8), ISA-2C/(M), ISA-4A/(F1A), ISA-4AR/(F1M) etc.

Other sequences can be implemented on request.

Alarm sequences

REF ISA	ALARM	NORMAL	ALARM	Acknowledge Sound	Acknowledge Light	Back to NORMAL	Back to NORMAL before Acknowledge	Acknowledge Sound	Acknowledge Light	RESET
ISA 1	Light	LED Off	LED int	LED int	LED On	LED Off	LED int	LED int	LED Off	
	Sound	Siren Off	Siren On	Siren Off	Siren Off	Siren Off	Siren On	Siren Off	Siren Off	
ISA 1A	Light	LED Off	LED On	LED int	LED On	LED Off	LED On	LED On	LED Off	
	Sound	Siren Off	Siren On	Siren Off	Siren Off	Siren Off	Siren On	Siren Off	Siren Off	
ISA 1B	Light	LED Off	LED int	LED int	LED On	LED Off	LED Off			
	Sound	Siren Off	Siren On	Siren Off	Siren Off	Siren Off	Siren Off			
ISA 2A	Light	LED Off	F LED int	F LED int	LED On	S LED int	F LED int	F LED int	S LED int	LED Off
	Sound	Siren Off	Siren On	Siren Off	Siren Off	Siren Off	Siren On	Siren Off	Siren Off	Siren Off
ISA 2C (M) default	Light	LED Off	LED int	LED int	LED On	LED On	LED int	LED int	LED On	LED Off
	Sound	Siren Off	Siren On	Siren Off	Siren Off	Siren Off	Siren On	Siren Off	Siren Off	Siren Off

PRIMARY SIGNAL SEQUENCES (1st Event)

REF ISA	ALARM	NORMAL	ALARM Initial	ALARM Subseq.	Acknowledge Initial	Acknowledge Subseq.	Back to NORMAL Initial	Back to NORMAL Subseq	Back to NORMAL before Acknowledge Initial	Back to NORMAL before Acknowledge Subseq.	Acknowledge Initial	Acknowledge Subseq	RESET
ISA 4A	Light	LED Off	LED int	LED On	LED On	LED On	LED Off	LED Off	LED int	LED Off	LED Off	LED Off	
	Sound	Siren Off	Siren On	Siren On	Siren Off	Siren Off	Siren Off	Siren Off	Siren On	Siren On	Siren Off	Siren Off	
ISA 4R	Light	LED Off	LED int	LED On	LED On	LED On	LED On	LED On	LED int	LED On	LED On	LED On	LED Off
	Sound	Siren Off	Siren On	Siren On	Siren Off	Siren Off	Siren Off	Siren Off	Siren On	Siren On	Siren Off	Siren Off	Siren Off

LEGEND

F = Fast

S = Slow

- ⊙ LED Off
- ◉ LED On
- ☼ LED intermittent
- ◁ Siren = Off
- ◁⟨ Siren = On

Head office
Germany
Helmut Mauell GmbH
Am Rosenhügel 1-7
42553 Velbert
Germany

Brazil
Helmut Mauell do Brasil Ltda.
Estr. Est. Salvador de Leone 2998
ITAPECERICA DA SERRA
06850-000 ITAPECERICA DA
SERRA SAO PAULO
Brazil

Netherlands
Helmut Mauell B.V.
Lorentzstraat 31
3846 AV HARDERWIJK
Netherlands

Switzerland
Mauell AG
Furtbachstraße 17
8107 BUCHS
Switzerland

USA
Mauell Corporation
31 Old Cabin Hollow Road
DILLSBURG PA 17019
USA

Africa

Argentina

Australia

Austria

Belgium

Czech Republic

Denmark

Finland

France

Great Britain

Hungary

Indonesia

Iran

Korea

Kuwait

Malaysia

Norway

Poland

Portugal

Rumania

Russia

Sweden

Singapore

Spain

Thailand

Turkey

U.A.E.

:.: mauell

www.mauell.com