World of

in-case

HIQUEL®
HIGH QUALITY ELECTRONICS

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Industrial Control- and Time Relays
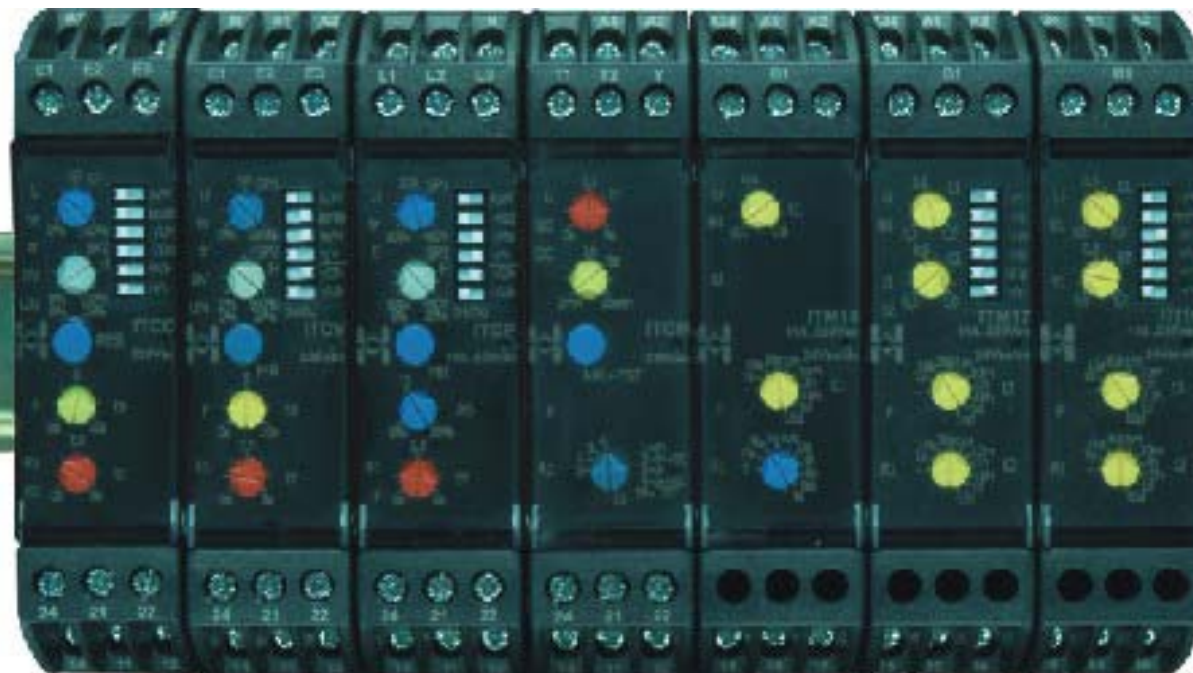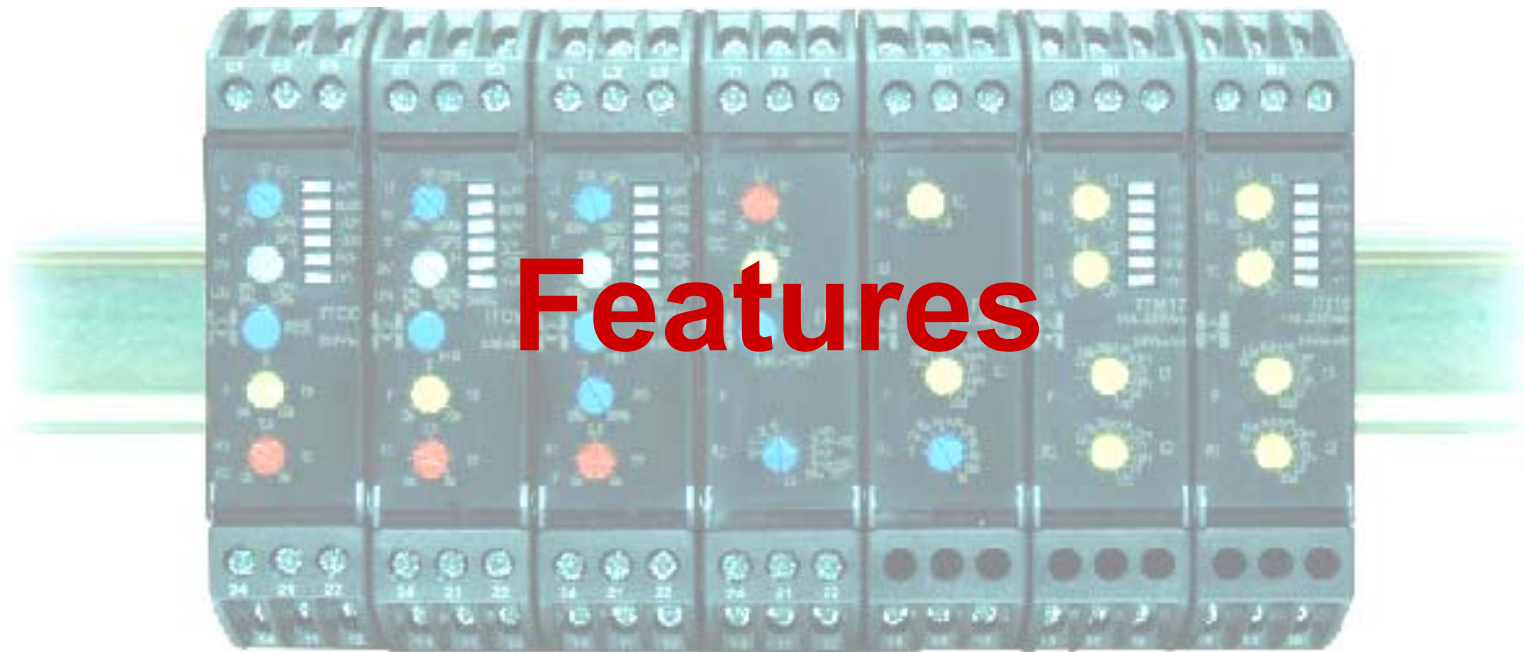
in-case

in-time

in-control

ever more complex control requirements – ever less amount of space available

- compact 22.5 mm housing

- high functionality

- new Micro-Controller

- complete product range with only 4 Control relays

- all common timing prozesses can be controlled with only 3 Time relays

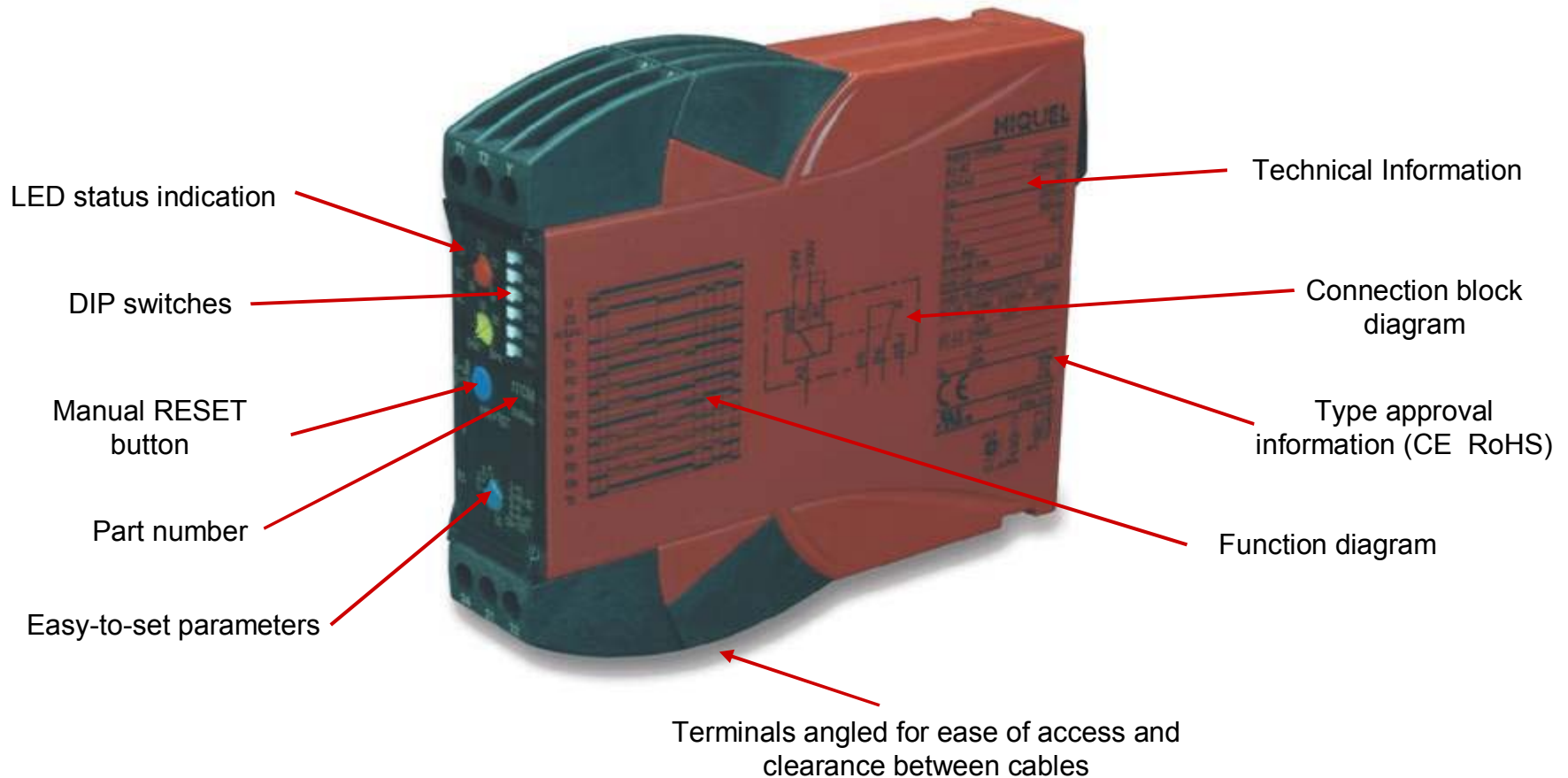- lower stock investment, faster deliveries

in-case. Features at a glance

Full installation details on the side:

LED status indication

DIP switches

Manual RESET button

Part number

Easy-to-set parameters

Technical Information

Connection block diagram

Type approval information (CE RoHS)

Function diagram

Terminals angled for ease of access and clearance between cables

in-case. LED status indication

All models feature a number LED's.

- ◆ presence of the supply voltage (green)
- ◆ status of the output relay/s (yellow)
- ◆ failure condition (red).

Control Relays

- ◆ over and/or under current or voltage (yellow)
- ◆ active start timer or reaction timer (yellow)

Thermistor Relay

- ◆ short or open circuit indication (red)

Time relays

- ◆ status of the external control input (yellow)
  operation of the timers (yellow)

in-case. Easy-to-set parameters

Parameters can be easily adjusted on the front plate

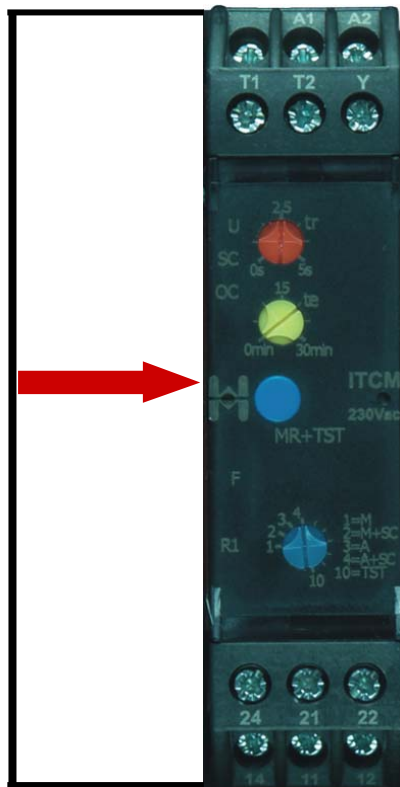Potentiometer und rotary switches are colour coded:

blue: set values

grey: hysteresis in percentage

yellow: time settings

red: time range of a reaction timer

in-case. Space saving design

in-case.

22.5 mm DIN-rail housing

93.5 mm depth

110 mm high

Models of the **in**-case series take up 50% less space than most similar products on the market.

To tamper proof the settings the DIP switches are covered with a transparent plate so that they can not be operated accidentally, however they are still visible.

in-case.

in-telligent.

in-tegrated.

in-dustrial.

ICC - Single-phase current relay

- ◆ 3 current ranges
- ◆ 4 measuring modes (over, under, inside range & outside range)
- ◆ 2 measuring functions
- ◆ selectable AC or DC current
- ◆ adjustable start-up time and reaction time

ICC: Electrical Load

Use an ICC to control the maximum or minimum current of any motor, for instance for a motor of a conveyor belt to prevent the motor from overloading or continuing to run when empty.

BMS
Building Management System

Factory Automation

Machine Automation

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ICV - Single-phase voltage relay

◆ 3 voltage ranges

◆ 4 measuring modes (over, under, inside range & outside range)

◆ 2 measuring functions

◆ selectable AC or DC voltage

◆ adjustable start-up time and reaction time
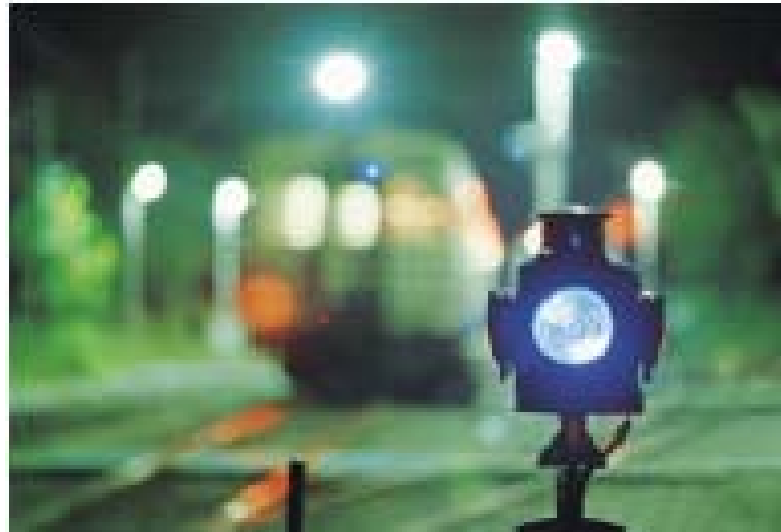
Use an ICV to monitor the charging status of all commonly used UPS battery packs as for instance the 48V power supplies for signals of traf.c control systems and emergency lighting systems.

ICP - Three-phase monitoring relay

- ◆ detects phase failure, phase sequence and phase asymmetry
- ◆ 4 measuring modes (over, under, inside range, outside range)
- ◆ 3 measuring functions
- ◆ selectable neutral detection on/off
- ◆ selectable asymmetry on/off

ICP: Supply voltage control

Use an ICP to check if all three phases are present, in sequence and that the amplitude of the three voltages is within set values. This ensures not only a longer working life of devices but also monitors the power consumption of any motorised system.

ICM – Thermistor motor protection

- 5 different functions
- up to 6 sensors in series
- switchable test function (test without PTC connected)
- open circuit detection
- additionally features external reset
- selectable short circuit detection

ICM: Over temperature control

Use an ICM to provide permanent over temperature protection for motors as for instance pumps in the petroleum industry and any other equipment.

in-case.

you need it!

ITM16 - Multifunction timing relay

- ◆ all common timing functions selected by DIP switch

- ◆ 9 selectable timing ranges (1s-10d)

- ◆ 10 timing functions (on delay, off delay, on pulse, symmetrical recycler...)

ITM16: Waste water screening process control

Use a ITM16 to control any common timing process as for instance an off delay process typi-cally found in a waste water treatment plant where a scraper stops after a de.ned period of time but still has to go back to its starting position.

ITM17 – Multifunction dual timing relay

- ◆ 2 different timers for dual timing functions (on-delay/ off-delay, delayed pulse...)
- ◆ 9 selectable timing ranges for each timer
- ◆ 14 timing functions
- ◆ special function features

ITM17: Bottling process control

Use an ITM17 to control single processes on a production line where a sensor detects an item and after a delay time (T1) a timed process (T2) is started as for instance the corking of bottles.

BMS
Building Management System

FA
Factory Automation

MA
Machine Automation

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ITI16 – Asymmetric recycler

- ⬥ 2 different timers (pulse and pause)
- ⬥ 9 selectable timing ranges
  for each timer
- ⬥ 6 asymmetric recycler functions
- ⬥ inhibit function (pause)
- ⬥ normal or inverted function
- ⬥ 'signal first' or 'pause first' function

ITI16: Detergent dosage control

Use an ITI16 to control any asymmetric process as for instance the proportioning of the cleaning agent in a car-wash plant.