custom'able



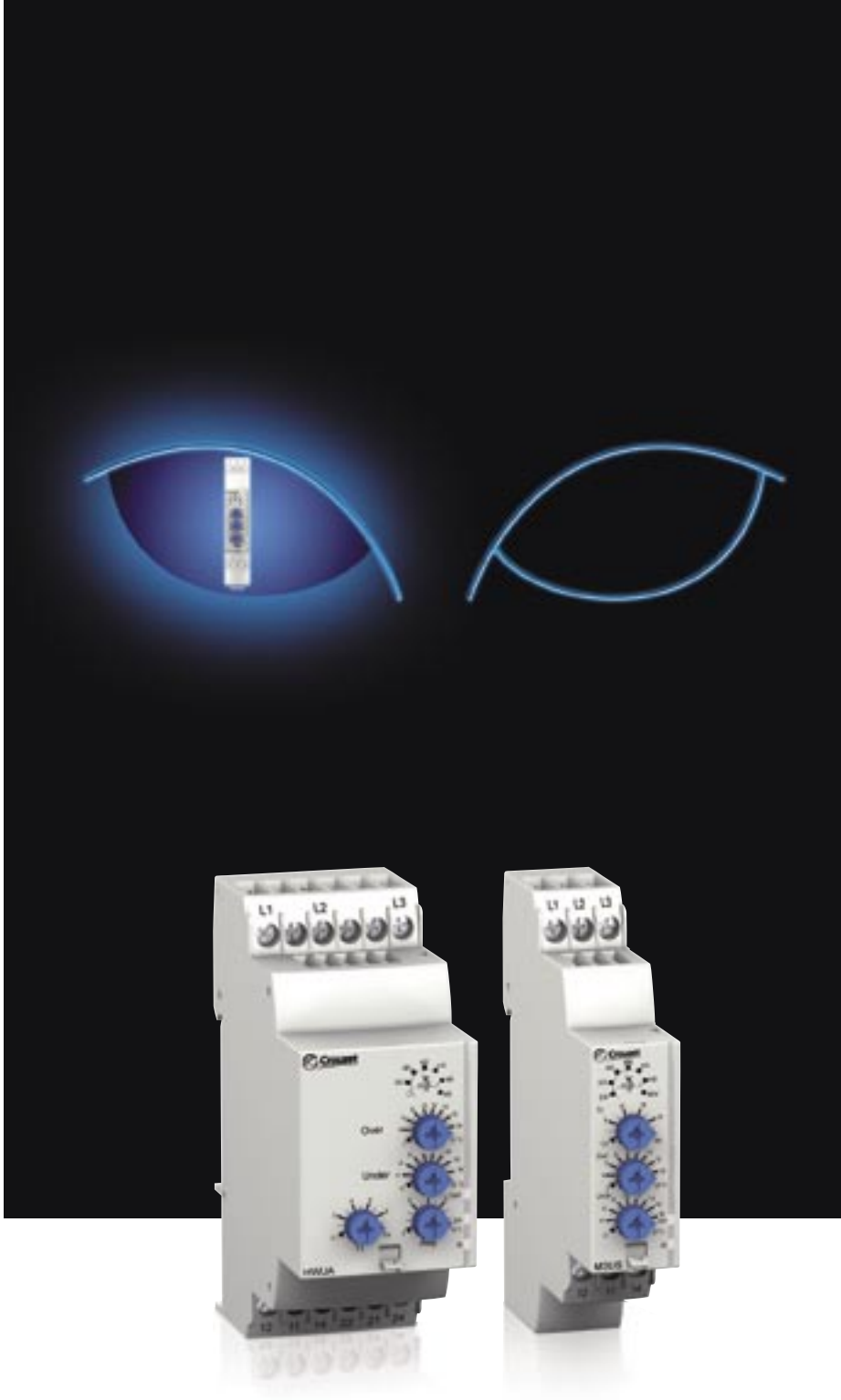
Close supervision



Simplicity of use



Productivity gains



## Control relay

# C-Lynx

Instinctive control

a company of Schneider Electric

Crouzet

# 3 good reasons for installing

## 1 Close-up protection for total availability of equipment!

By installing a control relay, the user can be informed of abnormal operating conditions, and is therefore able to take the necessary action to correct the fault by stopping the machine briefly before expensive breakdowns occur.

A major challenge for industry is to improve the availability of production tools, for which the close supervision and protection offered by **C-Lynx** is the perfect solution. It therefore makes sense for every device to be monitored by a **C-Lynx** control relay. Each device or machine would therefore be able to complete its allotted task at the appropriate time.




Crouzet

# a control relay in your equipment



## 2 All anomalies are detected!

Control relays monitor and detect abnormal operating conditions of an electrical or physical value (voltage, current, phase, level) in any device, even the most specialised (hoist, machine, motor, conveyor, etc).

If an anomaly is detected, the control relays emit a visible signal and trigger a change in the output contacts.

## 3 Optimise continuity of service

In industrial and commercial installations, every device should be monitored by a **C-Lynx** control relay so as to optimise continuity of service.

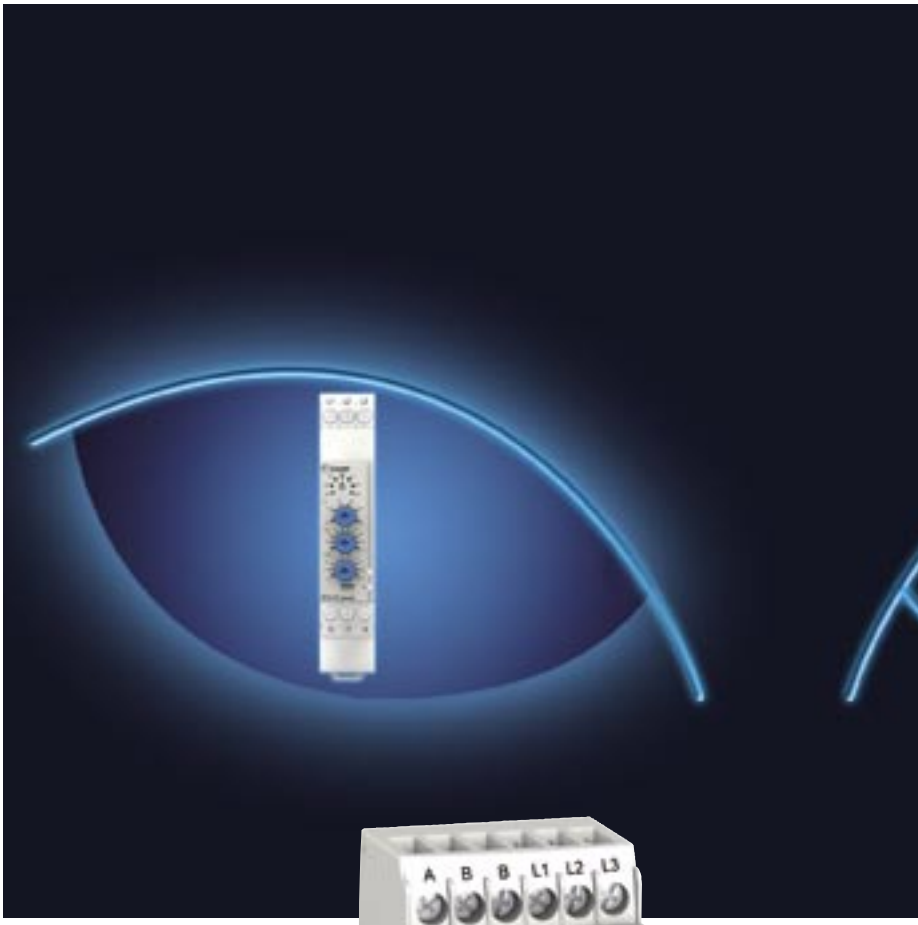
The control relay enables the operator to initiate maintenance operations or corrective actions to avoid production shutdowns.

**Result:**
**Improved operation and productivity for your installation!**

**By using control relays, you optimise your production management and reduce incidents which could adversely affect your productivity.**

# C-Lynx, control relays dedicated

**Supervision of motors, lifts, hoists, conveyor belts, packaging and air extraction, pumping... from standard products to bespoke products, C-Lynx control relays adapt to a multitude of applications, to meet all your requirements.**



## 1 Supervision of Motors

On 3-phase supplies, **C-Lynx** control relays check phase sequence and phase failure preventing a change in direction of rotation, and single-phase operating modes. They therefore avoid overheating faults linked to phase imbalance.

## 2 Temperature control in lifts

**C-Lynx** temperature control relays monitor the ambient temperature of service rooms or lift pulley rooms, to check that it remains with the statutory limits (between 4°C and 40°C) in compliance with **standard EN 81**.



Lifts

## 3 HVAC

Heating, cooling, air conditioning or extraction... **C-Lynx** control relays stop the motor to protect the unit in the event of current, phase and/or supply voltage faults.

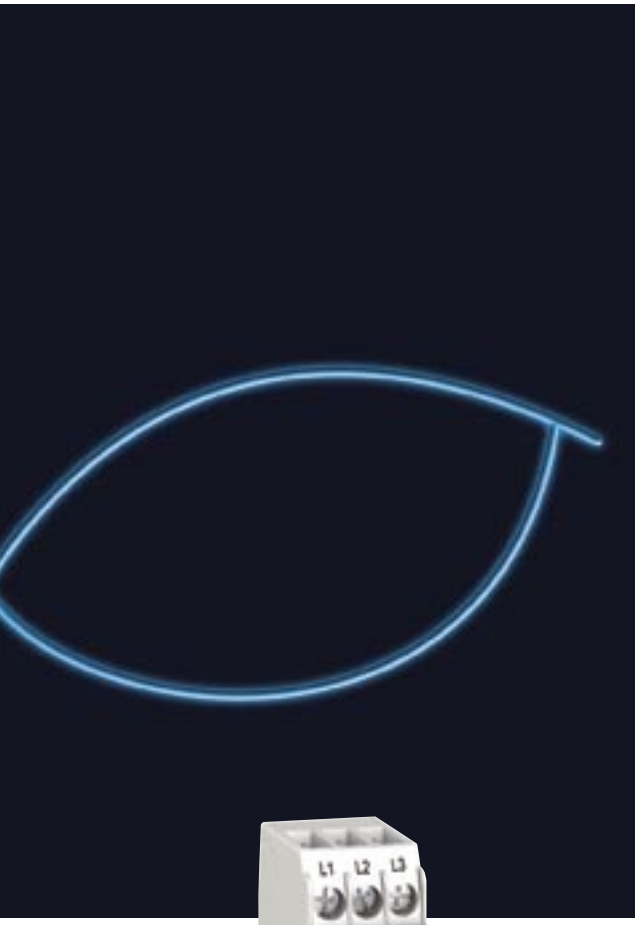


Air conditioning units




HWT81

# to your applications





MWG

## 4 Pump and level control

Agricultural applications, watering, irrigation, drying, pressure surge, lift pumps and fire pumps, distribution and treatment of water, etc. **C-Lynx** control relays are used to manage and protect equipment by current measurement and phase monitoring. **C-Lynx** control relays can also be used to control emptying and filling levels.



Pumps

## 5 Load monitoring

Conveying, packaging, assembly or bottling lines, grinders, crushers, etc. **C-Lynx** control relays monitor overloads on driving motors and detect any jamming.



Conveyors

## 6 Speed monitoring

Whatever the application, **C-Lynx** control relays react and alert the operator if the machine operating rate is abnormally high or low.



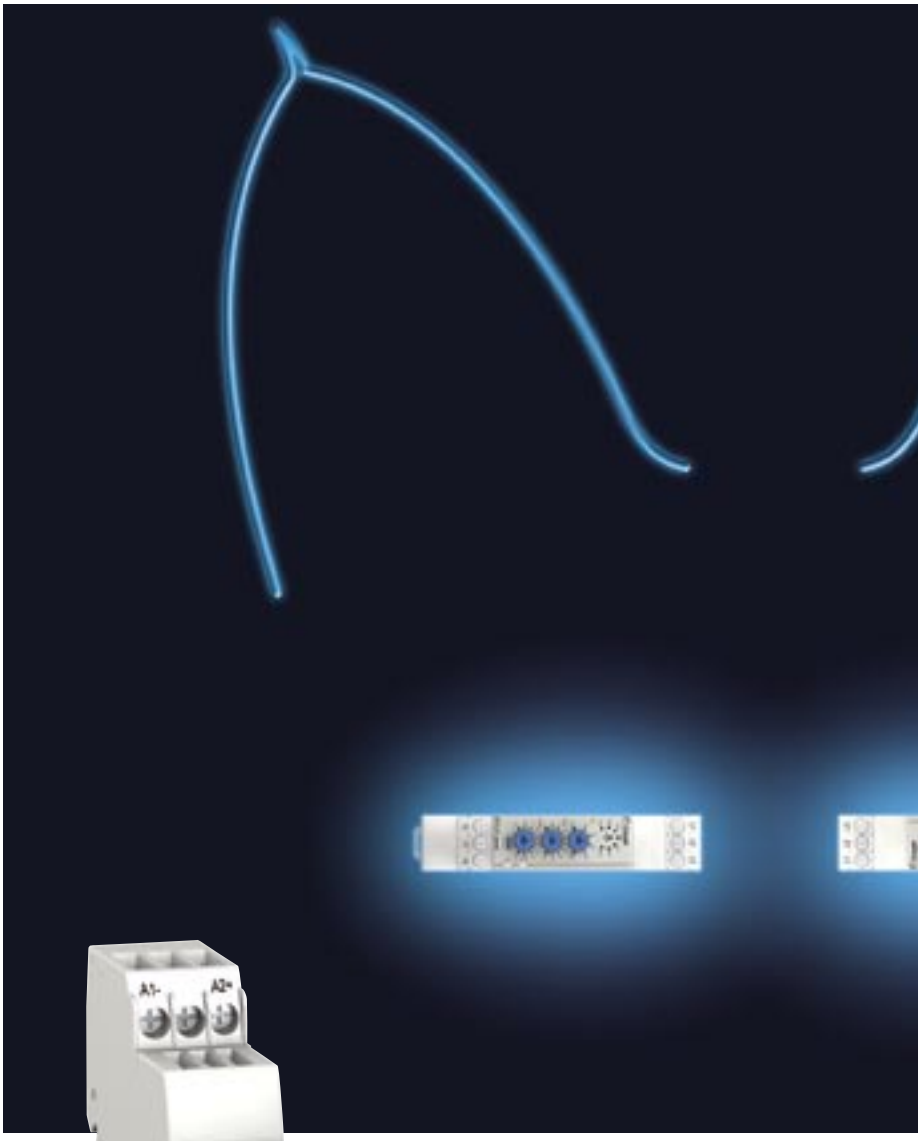
Escalators

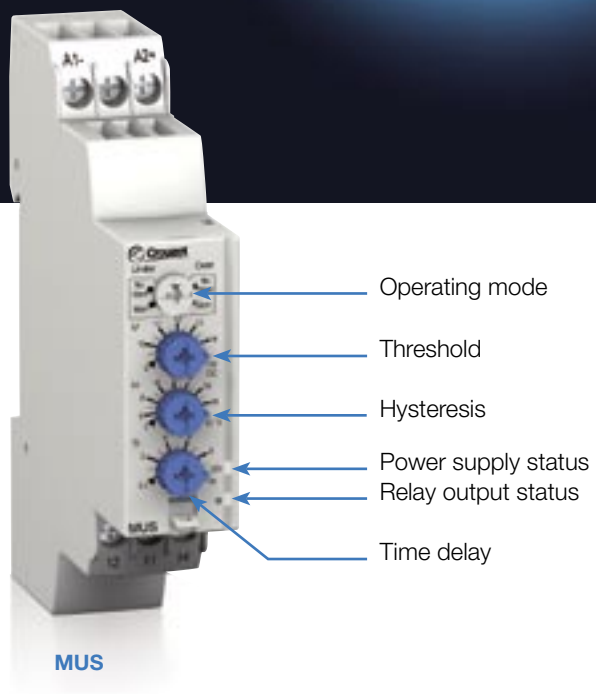
**C-Lynx control relays can adapt to both standard and specialist applications.**

# C-Lynx,
# tous les sens en éveil pour

## 1 The strong points of C-Lynx

- The combination of **several functions** in the same housing optimises your wiring time and simplifies installation.
- **The new 17.5 mm modular format** considerably reduces the dimensions of your equipment.
- **The Easy to use function:** the visual LED interface informs you of operating faults in your installation and any errors made when setting the parameters.
- **The new-generation built-in multi-voltage power supplies** optimise the number of parts and simplify product selection.
- **Eco-design: C-Lynx** control relays have been developed in accordance with the principles of eco-design (choice of materials, manufacturing process, energy consumption and component recycling). The recycling rate for these control relays is higher than that imposed by the WEEE (Waste Electrical and Electronic Equipment) European directive.
- **C-Lynx** control relays comply with **all the required electrical standards** and are easily integrated in your electrical equipment.





# s’adapter à vos équipements



## Custom’able label

**Crouzet can satisfy all your automation requirements, from custom components to the most dedicated product. Throughout the world Crouzet provides technical and industrial expertise to ensure that its products are perfectly customised and adapted for integration in any of your equipment.**

**This is why Crouzet guarantees customisation or adaptation of the whole range of C-Lynx control relays.**

## 2 Adaptability: C-Lynx’s trump card

The Crouzet design office can create control relays tailored to suit your needs, based on your specification.

**Crouzet offers you the following adaptations:**

- Adaptation of the level of regeneration for phase failure checks,
- Conversion of adjustable products into products with a fixed threshold,
- Adaptation of input voltage ranges and measurement ranges,
- Modification of timing ranges and addition of fixed values, etc,
- Possibility of customising colours and labelling, etc.




Ease of reading

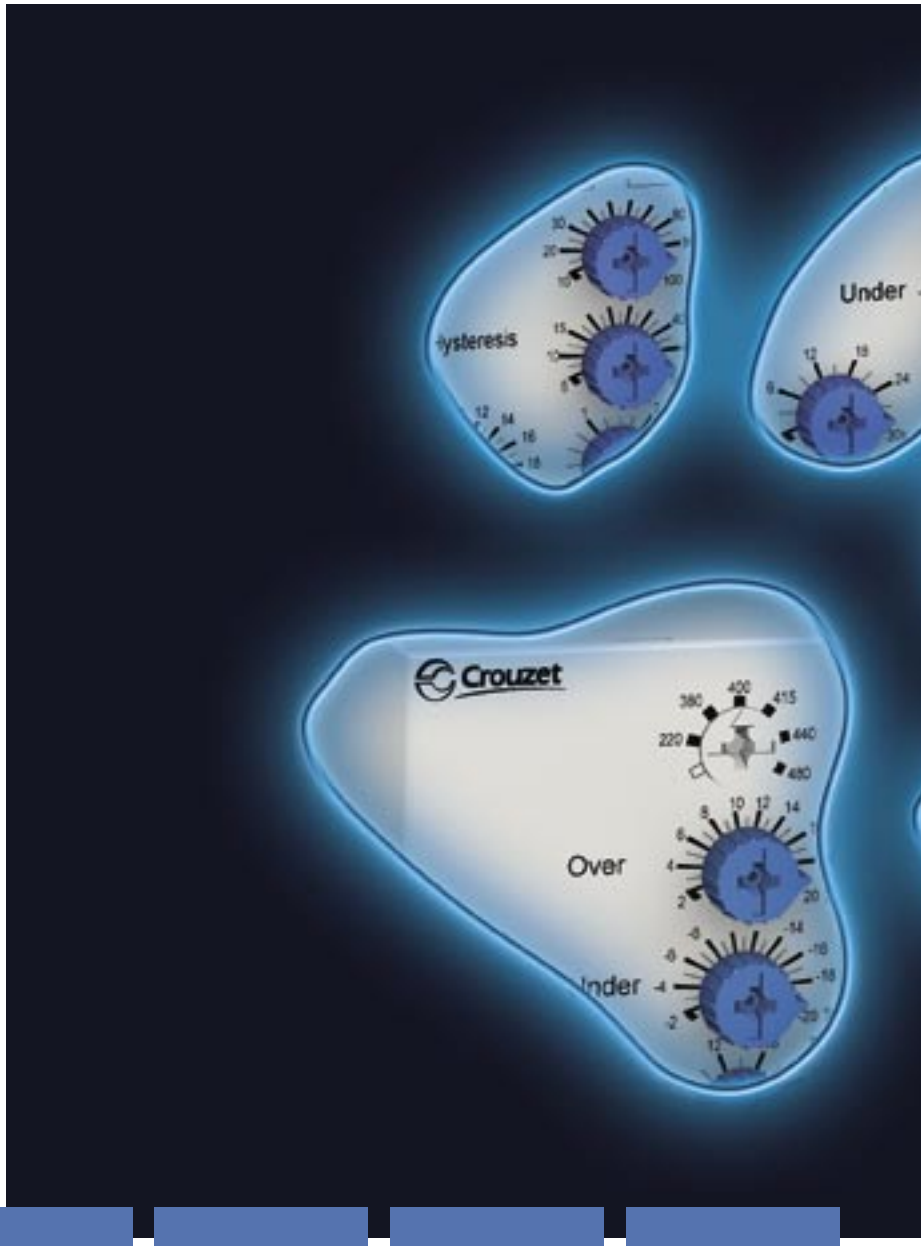



Simplified connections

# C-Lynx by Crouzet: a complete collection of

## 1 New features of the C-Lynx range

- **Positive logic output** also indicating loss of power supply,
- **True RMS measurement:** even if the sine waves are distorted, the measurement is correct,
- **Reduction in the number of housing sizes:** with a 17.5 mm and 35 mm **modular** compact format, **C-Lynx** control relays can be integrated more easily in industrial and commercial cabinets,
- **Built-in universal power supplies:** a version with power supply for single-phase products and a self-powered version for 3-phase products,
- **Adjustable time delay** on crossing thresholds, thus avoiding transient faults,
- **Settings can be protected** by fitting a sealable cover,
- **Very clear display** of control status via LEDs.





H3US


MUSF

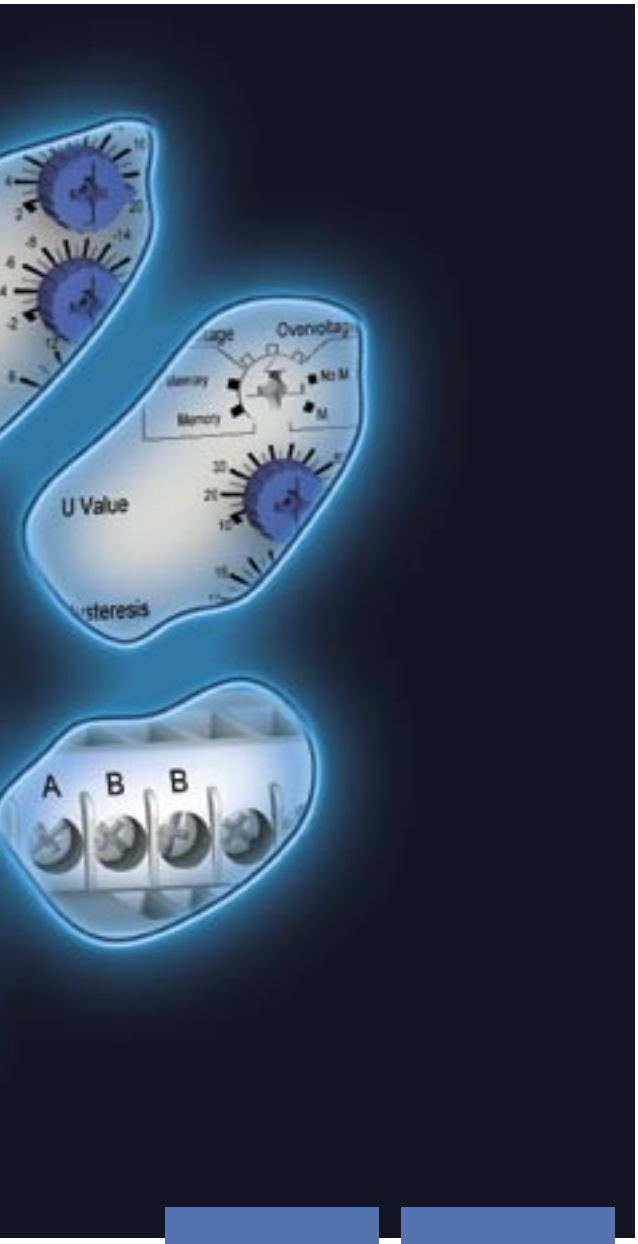

HIH


HHZ


HPC


MNS

# control relays




## 2 A complete range of standard control relays

**To satisfy all your automation requirements, Crouzet offers you an extensive range of standard control relays.**

- **Phase control relays (MWS, MWS2, MWG, MWU, MWA, MWUA, HWUA, H3US, H3USN, M3US) :**
  - presence and regeneration, phase sequence, phase, balance and level of asymmetry (or balance),
  - adjustment of voltage thresholds.
- **Voltage control relays (MUS, MUSF, HUL, HUH) :**
  - overvoltage, undervoltage control,
  - self-powered versions.
- **Current control relays (MIC, HIL, HIH) :**
  - overcurrent and undercurrent control,
  - version with built-in toroid.
- **Frequency control relays (HHZ) :**
  - Overfrequency and underfrequency control of the 50 or 60 Hz AC signal.
- **Pump control relays (HPC) :**
  - control of single-phase or 3-phase pumps,
  - dry run and overload protection,
  - 3-phase control.
- **Level control relays (HNM, MNS, HNE) :**
  - automation of filling and emptying cycles,
  - high or low level information,
  - check for presence of a conductive or non-conductive liquid by temperature probe or discrete sensor.
- **Speed control relays (HSV) :**
  - monitoring of pulse rates,
  - overspeed and underspeed control, rotation or movement control.
- **Lift temperature control relay (HT81, HT81-2, HWT81) :**
  - temperature monitoring in machine rooms and lift pulley rooms in accordance with **standard EN 81,**
  - version with built-in phase control,
  - phase failure with regeneration up to 70%.
- **Phase and temperature control relays (HWTM, HWTM2) :**
  - 3-phase network control,
  - motor temperature control with PTC probe test and memory function on temperature control.


HSV

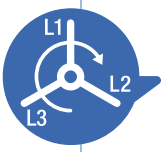

HT 81

# Selection guide



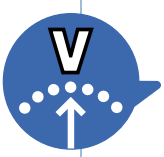




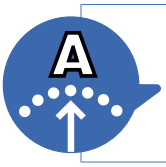



| Designation | Part number | Description | Operating conditions |
|---|---|---|---|
| **Phase control** | | | |
| MWS | 84873020 | Phase failure and phase sequence | – |
| MWS2 | 84873021 | Phase failure and phase sequence | – |
| MWG | 84873022 | Phase failure and phase sequence | Regeneration 70% of Un |
| MWU | 84873023 | Phase failure and phase sequence | Regeneration 70% of Un |
| | | Undervoltage | Phase/phase Un: 208/220/380/400/415/440/480 V AC |
| MWA | 84873024 | Phase failure and phase sequence | Regeneration 70% of Un |
| | | Asymmetry | – |
| MWUA | 84873025 | Overvoltage/undervoltage (window) | Phase/phase Un: 208/220/380/400/415/440/480 V AC |
| | | Asymmetry | – |
| | | Phase failure and phase sequence | – |
| HWUA | 84873026 | Overvoltage | Phase/phase Un: 220/380/400/415/440/480 V AC |
| | | Asymmetry | – |
| | | Undervoltage | Phase/phase Un: 220/380/400/415/440/480 V AC |
| | | Phase failure and phase sequence | – |
| H3US | 84873220 | Phase failure | – |
| | | Undervoltage | Phase/phase Un: 220/380/400/415/440/480 V AC |
| | | Overvoltage | Phase/phase Un: 220/380/400/415/440/480 V AC |
| H3USN | 84873221 | Loss of phase and neutral | – |
| | | Undervoltage | Phase/neutral Un: 120/127/220/230/240/260/277 V AC |
| | | Overvoltage | Phase/neutral Un: 120/127/220/230/240/260/277 V AC |
| M3US | 84873222 | Phase failure | – |
| | | Undervoltage | Phase/phase Un: 208/220/380/400/415/440/480 V AC |
| | | Overvoltage | Phase/phase Un: 208/220/380/400/415/440/480 V AC |
| **Voltage control** | | | |
| MUS12DC | 84872140 | Undervoltage or overvoltage | – |
| MUS80ACDC | 84872141 | Undervoltage or overvoltage | – |
| MUS260ACDC | 84872142 | Undervoltage or overvoltage | – |
| MUSF80ACDC | 84872151 | Overvoltage/undervoltage (window) | – |
| MUSF260ACDC | 84872152 | Overvoltage/undervoltage (window) | – |
| HUL | 84872120 | Undervoltage or overvoltage | – |
| HUH | 84872130 | Undervoltage or overvoltage | – |
| **Current control** | | | |
| MIC | 84871122 | Undercurrent | Via built-in Toroid |
| HIL | 84871120 | Undercurrent or overcurrent | – |
| HIH | 84871130 | Undercurrent or overcurrent | – |







| Control values | Supply voltage | Time delay | Output relay |
|---|---|---|---|
| | | | |
| 208-480 V AC 50/60 Hz | Self-powered 208-480 V AC | – | 1 single changeover relay 5 A |
| 208-440 V AC 50/60 Hz | Self-powered 208-440 V AC | – | 2 single changeover relay 5 A |
| 208-480 V AC 50/60 Hz | Self-powered 208-480 V AC | – | 1 single changeover relay 5 A |
| 208-480 V AC 50/60 Hz | Self-powered 208-480 V AC | 0.1 s to 10 s | 1 single changeover relay 5 A |
| -20% to -2% | | | |
| 208-480 V AC 50/60 Hz | Self-powered 208-480 V AC | 0.1 s to 10 s | 1 single changeover relay 5 A |
| 5% to 15% | | | |
| -20% to -2%<br>+2% to +20% | Self-powered 208-480 V AC | 0.1 s to 10 s | 1 single changeover relay 5 A |
| 5% to 15% | | | |
| 208-480 V AC 50/60 Hz | | | |
| +2% to +20% | Self-powered 220-480 V AC | 0.1 s to 10 s | 1 double changeover relay 2 x 5 A |
| 5% to 15% | | | |
| -20% to -2% | | | |
| 220-480 V AC 50/60 Hz | | | |
| 220-480 V AC 50/60 Hz | Self-powered 220-480 V AC | 0.3 s to 30 s | 2 single changeover relay 5 A |
| -20% to -2% | | | |
| +2% to +20% | | | |
| 120-277 V AC 50/60 Hz | Self-powered 120-277 V AC | 0.3 s to 30 s | 2 single changeover relay 5 A |
| -20% to -2% | | | |
| +2% to + 20% | | | |
| 208-480 V AC 50/60 Hz | Self-powered 208-480 V AC | 0.3 s to 30 s | 1 single changeover relay 5 A |
| -20% to -2% | | | |
| +2% to +20% | | | |

| | | | |
|---|---|---|---|
| | | | |
| 9-15 V DC | Self-powered 12 V DC | 0.1 s to 10 s | 1 single changeover relay 5 A |
| 20-80 V AC/DC | Self-powered 24-48 V AC/DC | 0.1 s to 10 s | 1 single changeover relay 5 A |
| 65-260 V AC/DC | Self-powered 110-240 V AC/DC | 0.1 s to 10 s | 1 single changeover relay 5 A |
| 20-80 V AC/DC | Self-powered 24-48 V AC/DC | 0.1 s to 10 s | 1 single changeover relay 5 A |
| 65-260 V AC/DC | Self-powered 110-240 V AC/DC | 0.1 s to 10 s | 1 single changeover relay 5 A |
| 0.2 V to 2 V<br>1 V to 10 V<br>6 V to 60 V | 24-240 V AC/DC 50/60 Hz | 0.1 s to 3 s | 1 double changeover relay 2 x 5 A |
| 15 V to 150 V<br>30 V to 300 V<br>60 V to 600 V | 24-240 V AC/DC 50/60 Hz | 0.1 s to 3 s | 1 double changeover relay 2 x 5 A |

| | | | |
|---|---|---|---|
| | | | |
| 2 A to 20 A | 24-240 V AC/DC 50/60 Hz | – | 1 single changeover relay 5 A |
| 2 mA to 20 mA<br>10 mA to 100 mA<br>50 mA to 500 mA | 24-240 V AC/DC 50/60 Hz | 0.1 s to 3 s | 1 double changeover relay 2 x 5 A |
| 0.1 A to 1 A<br>0.5 A to 5 A<br>1 A to 10 A | 24-240 V AC/DC 50/60 Hz | 0.1 s to 3 s | 1 double changeover relay 2 x 5 A |

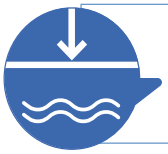
# Selection guide






| Designation | Part number | Description | Operating conditions |
|---|---|---|---|
| **Frequency control** | | | |
| **HHZ** | **84872501** | Underfrequency and overfrequency (window) | 50 Hz or 60 Hz |





| | | | |
|---|---|---|---|
| **Level control** | | | |
| **HNM** | **84870700** | Filling or emptying with conductive liquids | 1 or 2 levels |
| **MNS** | **84870720** | Filling | – |
| **HNE** | **84870710** | Filling or emptying | 1 or 2 levels |





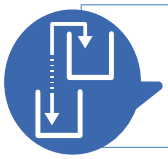

| | | | |
|---|---|---|---|
| **Speed control** | | | |
| **HSV** | **84874320** | Underspeed or overspeed | – |





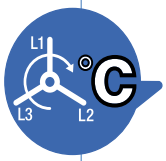

| | | | |
|---|---|---|---|
| **Temperature control in lifts according to EN 81** | | | |
| **HT81** | **84874110** | Undertemperature and overtemperature (window) | – |
| **HT81-2** | **84874120** | Undertemperature and overtemperature (window) | – |
| **HWT81** | **84874130** | Undertemperature and overtemperature (window) | – |
| | | Phase failure and phase sequence | Regeneration 70% of Un |





| | | | |
|---|---|---|---|
| **Pump and level control** | | | |
| **HPC** | **84874200** | Network monitoring | 1 phase |
| | | | 3-phase: Phase failure and phase sequence |
| | | Undercurrent and overcurrent (window) | – |






| | | | |
|---|---|---|---|
| **Temperature and phase control** | | | |
| **HWTM** | **84873027** | Phase failure and phase sequence | – |
| | | Thermal protection | – |
| **HWTM2** | **84873028** | Phase failure and phase sequence | – |
| | | Thermal protection | – |
| | | Test | Reset on front panel via pushbutton and remotely |
| | | Memory | Reset on front panel via pushbutton and remotely |

| Control values | Supply voltage | Time delay | Output relay |
|---|---|---|---|
| | | | |
| 40 HZ to 60 Hz<br>50 HZ to 70 Hz | 120-277 V AC 50/60 Hz | 0.1 s to 10 s | 2 single changeover relay 5 A |
| | | | |
| 250 Ω to 5 KΩ<br>5 KΩ to 100 KΩ<br>50 KΩ to 1 MΩ | 24-240 V AC/DC 50/60 Hz | 0.1 s to 5 s | 1 double changeover relay 2 x 5 A |
| Contact input for discrete sensor | 24-240 V AC/DC 50/60 Hz | 0.1 s to 5 s | 1 single changeover relay 5 A |
| Input for discrete sensor:<br>Contact/PNP/NPN | 24-240 V AC/DC 50/60 Hz | 0.1 s to 5 s | 1 single changeover relay 5 A |
| | | | |
| Time between controlled pulses:<br>0.05 s to 0.5 s<br>0.1 s to 1 s<br>0.5 s to 5 s<br>1 s to 10 s<br>0.1 mn to 1 mn<br>0.5 mn to 5 mn<br>1 mn to 10 mn | 24-240 V AC/DC 50/60 Hz | 0.6 s to 60 s | 1 single changeover relay 5 A |
| | | | |
| 3-wire PT100 input<br>Low threshold: -1°C to +11°C<br>High threshold: +34°C to +46°C | 24-240 V AC/DC 50/60 Hz | 1 s to 10 s | 1 single changeover relay 5 A |
| 3-wire PT100 input<br>Low threshold: -1°C to +11°C<br>High threshold: +34°C to +46°C | 24-240 V AC/DC 50/60 Hz | 1 s to 10 s | 2 single contact relays (NO) 5 A |
| 3-wire PT100 input<br>Low threshold: -1°C to +11°C<br>High threshold: +34°C to +46°C | 24-240 V AC/DC 50/60 Hz | 1 s to 10 s | 2 single contact relays (NO) 5 A |
| 208-480 V AC 50/60 Hz | | | |
| | | | |
| 230 V AC 50/60 Hz | Self-powered (1 or 3 phases) | 1 s to 60 s on power-up<br>0.1 s to 10 s on threshold crossing | 1 single changeover relay 5 A |
| 208-480 V AC 50/60 Hz | | | |
| 1 A to 10 A AC | | | |
| | | | |
| 208-480 V AC 50/60 Hz | 24-240 V AC/DC | – | 2 single contact relays (NO) 5 A |
| Thermistor with automatic reset | | | |
| 208-480 V AC 50/60 Hz | 24-240 V AC/DC | – | 2 single contact relays (NO) 5 A |
| Thermistance to réarmement automatique | | | |
| – | | | |
| – | | | |

# OCEAN CHIPS
## Океан Электроники
## Поставка электронных компонентов

Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «**JONHON**», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «**FORSTAR**».

AVIC JONHON

**«JONHON»** (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

**«FORSTAR»** (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

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