



VEO

Timing relay/Monitoring relay

Our people, organisation and technology



We are 50 years old but still very young at heart and haven't lost our youthful curiosity. Over the years we've gained a lot of experience and developed real foresight.

We are a large team of professional, highly skilled individuals and a real Austrian family run business. Relays are what we're all about. Over the last five decades we have been inventing and manufacturing automation components, in particular timing and monitoring relays. With a sense of youthful candidness and pioneering spirit, we are always looking to discover and learn new things. Our relays are the epitome of everything that we stand

for: knowledge, experience, a touch of playfulness, and the desire to always improve our products.

Our site in Vienna is a one stop shop. It doesn't just house our management team, development and marketing departments but our manufacturing site as well. You can also say that we're a truly international company as we have branches in Germany and Great Britain as well as 60 trade partners all around the world. You can count on us, no matter where you are.

We are **Tele**.



We are the Austrian market leader for timing and monitoring relays. Our relays might be small but they pack a punch.



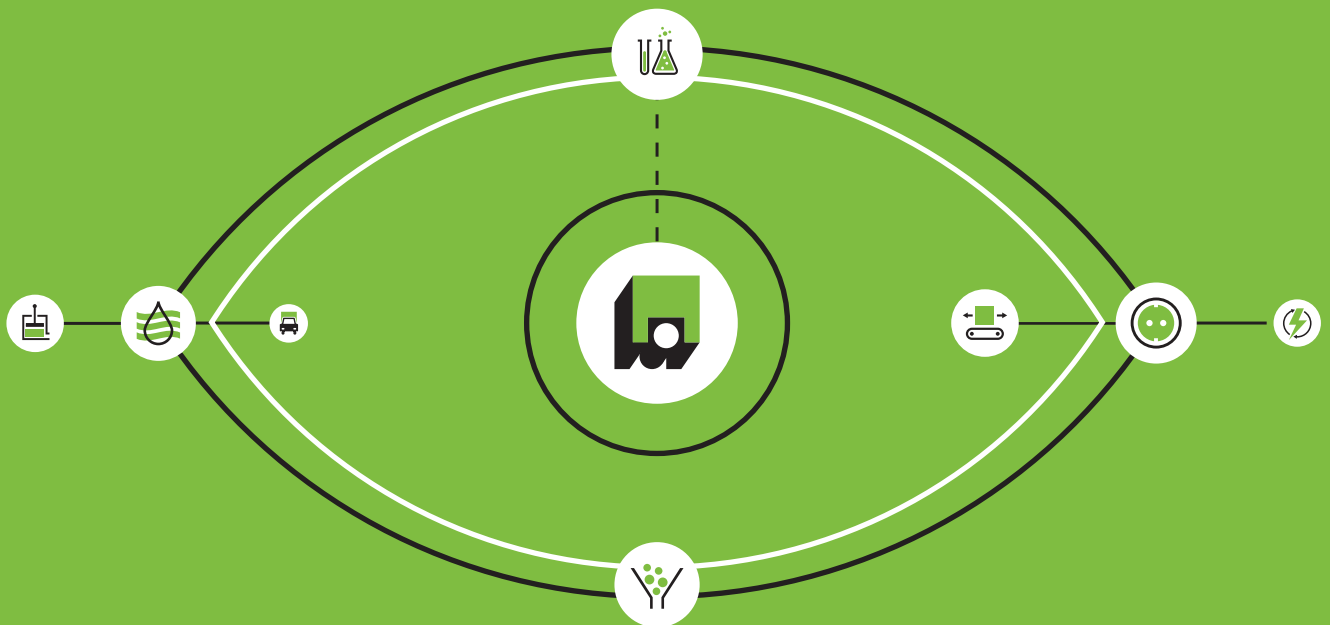
For decades, our relays have been used in water works, transformer stations, industrial plants, wind turbines, hydroelectric power stations, solar power stations, wastewater treatment plants and refrigerated transport vehicles.

Tele Relays can be relied upon for a whole host of applications. They have been a prime example of green and clean technology for a long time. They help ensure we get the most out of solar, wind and hydroelectric energy and ensure we use this precious energy as sparingly and economically as possible.

Our small relays are part of the large scale so-called "Energy Transition" and we are immensely proud of that. We are equally proud of Tele VEO, our latest generation relay. The dynamic Tele VEO is the most compact, powerful and energy efficient relay we have ever produced.

360° panoramic view

Tele VEO doesn't miss a trick. 360°, 24 hours a day, 365 days a year.
Tele VEO is the all seeing eye.



The ›All Seeing Eye‹

Tele VEO never takes a break, has no blind spots and never misses a trick. You can rely on it: even under the toughest conditions, such as extreme cold, vibrations or electromagnetic interference, it will ensure everything is in order. It will even work in places with limited access, for example, deep in a narrow well shaft or suspended up high in a wind turbine.

Tele VEO records every movement, every change in voltage or temperature, every pump failure and every blockage or underload, such as idling, as soon as it is put into action.

Tele VEO is more reliable, more compact and cheaper than any other programmable logic controller on the market. Tele VEO can operate applied physics itself and directly measure parameters such as temperature, voltage and current and flag any problems to you immediately.

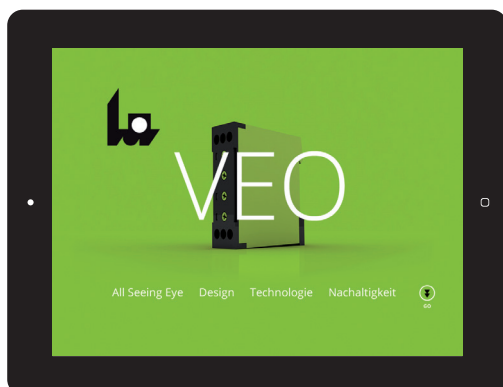
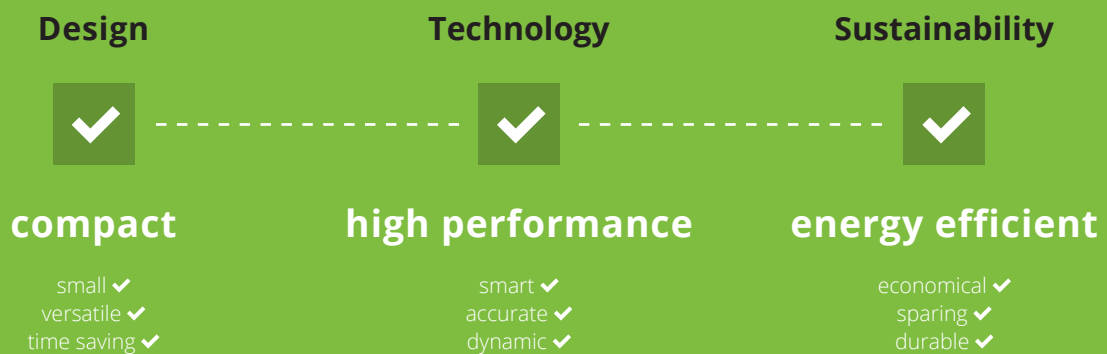
The all seeing eye protects your machines and systems using its panoramic view.

Design, technology and sustainability

There are many sides to **Tele VEO**. Depending on your needs, it can be used either as a timing relay or a monitoring relay.

With **Tele VEO** all bases are covered.

Tele VEO encompasses top design, technology and sustainability all in one.

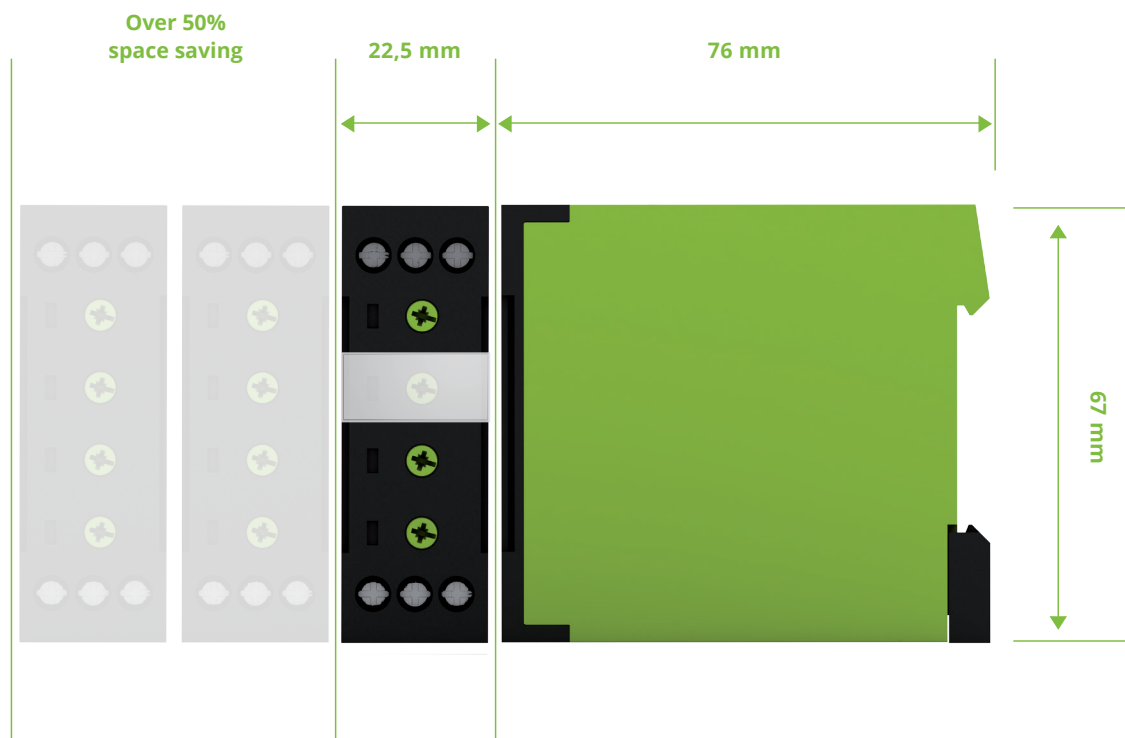


TELE-ONLINE.COM/VEO

Discover the world of Tele VEO online as well.

Small, versatile and time saving

Smart, user friendly and a real allrounder.
The only thing it can't do is put the kettle on.



Compact Industrial Design

Thanks to the tiny dimensions of its housing, measuring just 22.5 wide and a minimal 76mm deep, it is half the size of other, comparable industry designs. You will also love the movable inscription field and the bright yet energy efficient LEDs. The setting potentiometers are recessed and with the push-in terminal you can install the [Tele VEO](#) without any tools. You can also save a huge amount of assembly time and let your robots work..

✓ **Innovation**

✓ **Tool free wiring**

✓ **Vibration resistant**

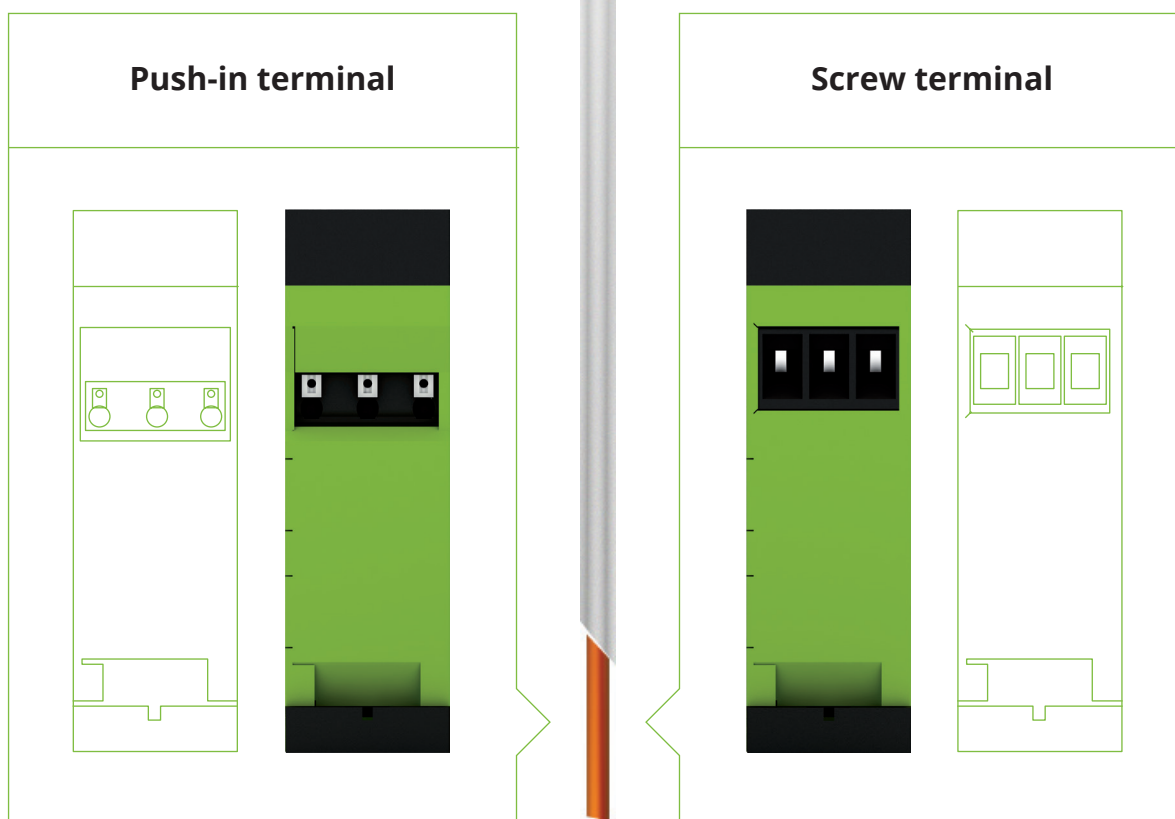
✓ **Time saving**

✓ **4mm² terminal compartment**

✓ **Captive screws**

✓ **PH1 screwdriver**

✓ **Open terminals
when delivered**

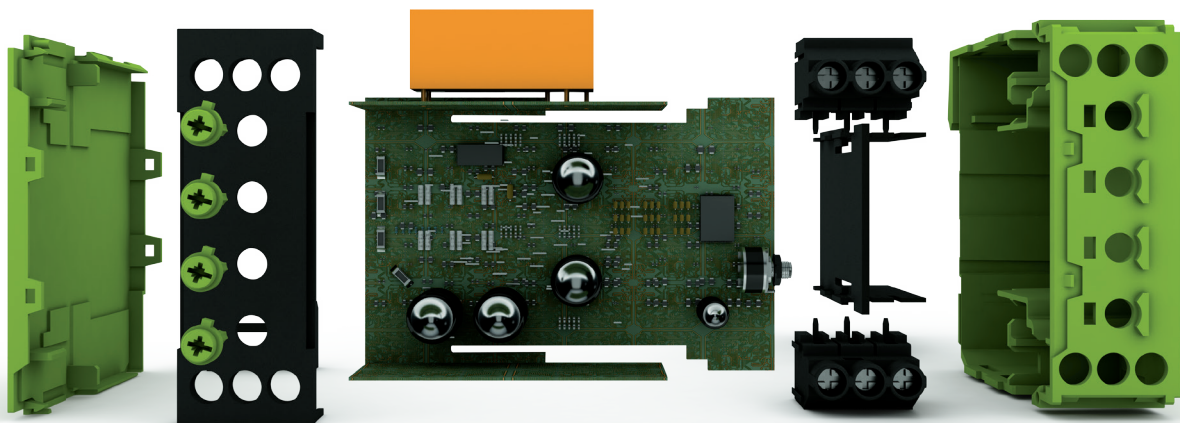


Push-in terminal or screw terminal?

With Tele VEO's well thought out terminal arrangement both options are practical. The push-in terminal is shock resistant and can be assembled quickly and easily without the need for tools. The screw terminal is larger and is suitable for use with other wiring and captive screws. Connections A1 and A2 are now located next to each other to ensure easy wiring and safe isolation.

Smart, accurate and dynamic

Tele VEO's improved measurement accuracy level is now 2.5 %. As Tele VEO covers such a broad power supply range and is therefore extremely flexible, you will no longer need a huge spare parts store. Tele VEO can be used for frequencies between 16 2/3 and 400 Hz. It is also faster than other relays: we have shortened its reaction time from 250 ms to 150 ms.



Ambient conditions

- ✓ Temperature range increased from 55°C to 60°C
- ✓ Can be used with frequencies between 16 2/3 and 400Hz (max.)
- ✓ Suitable for use with a frequency converter

Powerful processor

- ✓ Improved measuring principle (True RMS)
- ✓ 50% increase in basic accuracy from 5% to 2.5%
- ✓ Measurement accuracy improved over the entire frequency range



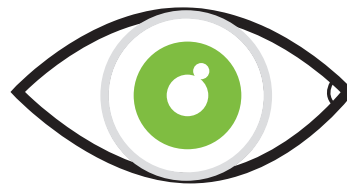
Timing Relays

Functions:

- ☒ On delay, voltage controlled
- ☒ Off delay with control contact
- ☒ On delay with control contact
- ☒ Single shot leading edge, voltage controlled
- ☒ Single shot leading edge with control contact
- ☒ Single shot trailing edge with control contact
- ☒ Flasher pulse first
- ☒ Flasher pause first
- ☒ Pulse repetition analysis
- ☒ Asymmetric flasher pulse first
- ☒ Asymmetric flasher pause first
- ☒ Star delta start-up
- ☒ Off delay without auxiliary voltage
- ☒ Ancillary on delay **NEW**

Ancillary on delay

Adds up the time that the control signal has been on. If the total reaches the setting value of the timing delay, it switches.



Monitoring Relays

Functions:

- ☒ Voltage monitoring
- ☒ Current monitoring
- ☒ Temperature monitoring
- ☒ Voltage monitoring & temperature monitoring combined **NEW**
- ☒ Current monitoring with bar-type current transformer **NEW**
 - Current measurement up to 100A without an external current transformer
 - Vertical integration of the current transformer (facilitates cabling from the top down)

Broad power supply range

With its enhanced energy efficiency and a broader power supply range, the **Tele VEO** is the only one of its kind in the sense that it has low zoom (12–240V AC/DC) and high zoom (208–480V AC/DC). In terms of mains voltage, the scope of applications is extremely broad and there is therefore no need to store as many types.

LOWZOOM
12 – 240 volts



HIGHZOOM
208 – 480 volts



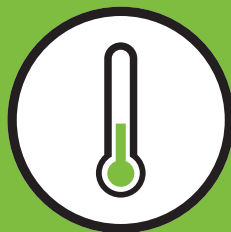
Economical, sparing and durable

We respect the environment by using as few materials as possible in our manufacturing process. In addition, we don't use toxic clear varnish on the housing. Our typical 0.35 watt energy saving is more than just interesting information. Tele VEO can be used in ambient temperatures ranging from -25°C to 60°C.

All the product benefits at a glance



**Use of the latest
switch mode power supply
technology**



**Radically reduced
heat generation**



**Environmentally-friendly
packaging**

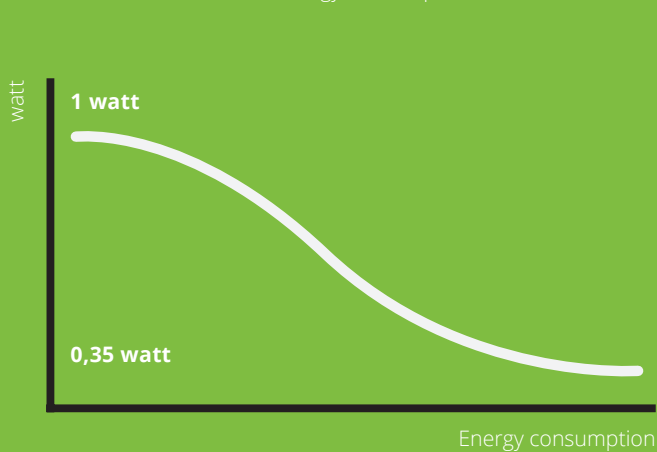


**Reduced power
consumption**

Continuous operation without sweating

Tele VEO has the latest switch mode power supply technology. It is very powerful yet produces hardly any heat. Tele VEO keeps a cool head in low operating temperatures, which is a real advantage in terms of service life and reliability. This also means that there is less need for switch cabinet air conditioning and ventilation. It is not our policy to change things too quickly or cosmetically adapt our products to force you to make unnecessary new purchases. We manufacture Tele VEO to last 10 years, at least. And that's a promise!

Reduction in energy consumption

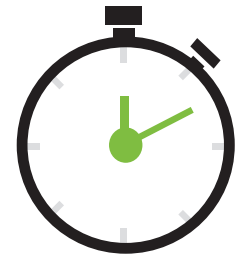
**SUSTAINABLE PRODUCT****ENERGY PRODUCTION****ECO-POWER****RESOURCE-EFFICIENT
MANUFACTURING PROCESSES
USING FEW MATERIALS****SUSTAINABLE PRODUCTION**

Local added value

We manufacture our products in the Near West, not the Far East, more specifically in Vienna where we are based. We are firm believers in Austrian quality and local added value.



86,400 seconds a day



Timing Relay

The **Tele VEO** timing relay keeps a watchful eye on the time for you. From wind turbines to grapevine fertilizers, our timing relays will ensure your machines work in time so that the production rhythm is always spot on.



Our relays are part of the so-called “Energy Transition” and can also be found in wind farms where on delay timing relays manage the bridging of the motor’s starting resistor when the wind picks up. **Tele VEO** also protects you from false alarms and prevents fault reports from being sent for pumps and compressors in the event of a power cut unless it is certain that there is a real problem and not just a voltage fluctuation.

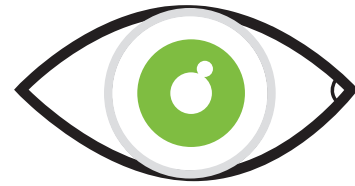
Tele VEO can even be of service to wine growers by ensuring consistency. After being activated mechanically, it regulates the time spent supplying each grapevine with

fertilizer, which means that they all get the same amount. It’s impossible to imagine industry running without timing relays. As smart controller units, they help to make savings. In bottle washers, for example, they clock the distribution of detergent. In sporadically used warehouses or during night time in loading bays they ensure the lights don’t shine continuously by automatically switching them off.

TYPE DESIGNATION	V2ZM10	V2ZQ10	V2ZE10	V2ZR10	V2ZI10	V2ZS20	V2ZA10
Time function	Multifunctional	Multifunctional	On delay	Off delay	2-Time Multifunctional	Star-delta relay	Off delay without auxiliary voltage
Art. no. Screw terminal	125100	125150	125110	125120	125200	125300	125500
Art. no. Push-in terminal	125600	125650	125610	125620	125210	125310	125510
Packaging unit	1 pc.	1 pc.	1 pc.	1 pc.	1 pc.	1 pc.	1 pc.
Available	March 2013	March 2013	March 2013	March 2013	March 2013	March 2013	September 2013
FUNCTIONALITY							
E ... On delay, voltage controlled	■	■	■				
R ... Off delay with control contact	■	■		■			
Es ... On delay with control contact	■						
Wu ... Single shot leading edge, voltage-controlled	■	■					
Ws ... Single shot leading edge with control contact	■						
Wa ... Single shot trailing edge with control contact	■						
Bi ... Flasher pulse first	■						
Bp ... Flasher pause first	■	■					
Wt ... Pulse repetition analysis	■						
Ec ... Ancillary on delay	■						
Ii ... Asymmetric flasher pulse first					■		
Ip ... Asymmetric flasher pause first					■		
S ... Star-delta start-up						■	
A ... Off delay without auxiliary voltage							■
POWER SUPPLY CIRCUIT							
Mains voltage	12 – 240V AC/DC	24 – 240V AC/DC	24 – 240V AC/DC	24 – 240V AC/DC	12 – 240V AC/DC	12 – 240V AC/DC	12 – 240V AC/DC
Frequency range	48 – 63Hz or DC	48 – 63Hz or DC	48 – 63Hz or DC	48 – 63Hz or DC	48 – 63Hz or DC	48 – 63Hz or DC	48 – 63Hz or DC
TIME CIRCUITS							
Time ranges	10	10	10	10	10	4 transit times: 40–100ms	4
Setting range	0.05secs – 100h	0.05secs – 100h	0.05secs – 100h	0.05secs – 100h	0.05secs – 100h	Star time: 0.05secs – 180h	0.10secs – 3mins
OUTPUT CIRCUIT							
Number of switch contacts	One changeover contact	One changeover contact	One changeover contact	One changeover contact	One changeover contact	Two normally open contacts	One changeover contact
Max. switching power	2000 VA	2000 VA	2000 VA	2000 VA	2000 VA	750 VA	2000 VA

TIMING RELAY & MONITORING RELAY		
Dimensions (W × H × D)	22.5 × 67 × 76mm	
Operating temperature	-25°C ... +60°C	
Accreditations and standards	CE	
Product standard for monitoring relay	IEC 60947-5-1	
Product standard for timing relay	IEC 61812-1	

All 100% Okay



Monitoring Relays

Little **Tele VEO** looks after the well being of huge installations and companies. These huge installations and companies, i.e. power plants, water suppliers and energy suppliers, form the backbone of our civilization.



Energy production



Traffic engineering



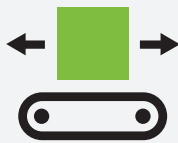
Heating, air conditioning
and ventilation



Pumps and
compressors



Energy distribution



Hoists and conveyors



Process industry



Processing machines

It's impossible to have surveillance staff in exposed locations 24 hours a day, and it's also impossible for your employees' eyes to be everywhere. That's why we invented **Tele VEO**.

It's acute measurement sensitivity means that you can run your systems and machines even more efficiently. **Tele VEO** can help you to detect defects early on and avoid idling and damage to your infrastructure. Whether your machines suddenly need more power or are experiencing

alarmingly high operating temperatures or your systems have the incorrect voltage, **Tele VEO** will switch on in a split second and switch off sensitive systems. When used in conjunction with a small additional device, it will immediately alert you - either by SMS or email - and you can get your service team on it straight away.

TYPE DESIGNATION	V2PF480Y/ 277VSY01	V2PM400Y/ 230VS10	V2UM230V10	V4PF480Y/ 277VSYTK02	V2TF01	V2IM10AL10	V4IM100AL20
Measurement parameter	Voltage			Voltage & temperature	Temperature	Current	
	3-phase AC	3-phase AC	1-phase AC/DC	3-phase AC, PTC	PTC	1-phase AC/DC	1-phase AC/DC, bar-type current transformer
Art. no. Screw terminal	2100000	2100500	2100300	2104200	2100100	2100400	2104400
Art. no. Push-in terminal	2100010	2100510	2100310	2104210	2100110	2100410	2104410
Packaging unit	1 pc.	1 pc.	1 pc.	1 pc.	1 pc.	1 pc.	1 pc.
Available	March 2013	June 2013	June 2013	April 2013	June 2013	August 2013	May 2013
FUNCTIONALITY							
O ... Over						■	■
U ... Under		■	■			■	■
W ... Window		■	■			■	■
MIN/MAX							■
SEQ ... Phase sequence	■	■		■			
Phase failure	■	■		■			
ASYM... Asymmetry	■			■			
Thermistor monitoring (PTC)				■	■		
Short circuit monitoring (PTC)				■	■		
LATCH ... Error memory						■	■
Autoreset (PTC)				■	■		
Start ... Override on start-up	-	-	-	-	-	-	0 – 10 secs
Delay ... trip delay	-	0 – 10 secs	0 – 10 secs	-	-	0 – 10 secs	0 – 10 secs
POWER SUPPLY CIRCUIT							
Mains voltage	208V/120V - 480V/277V	400V/230V	24V DC, 230V AC/DC	208V/120V - 480V/277V	24 – 240V AC/DC	24 – 240V AC/DC	24 – 240V AC/DC
Frequency range	48 – 63Hz	16.6 – 400Hz	16.6 – 400Hz or DC	48 – 63Hz	16.6 – 400Hz or DC	16.6 – 400Hz or DC	16.6 – 400Hz or DC
MEASURING CIRCUIT							
Measurement range	see mains voltage	see mains voltage	see mains voltage	see mains voltage	-	10A AC/DC	100A AC/DC
Frequency	see rated frequency	see rated frequency	see rated frequency	see rated frequency	-	16.6 – 400Hz or DC	16 – 400Hz or DC
Switching threshold - max.	-	75 ... 130%	80 ... 115%	-	≥ 3.6 kΩ (switch-off value)	10 ... 100%	10 ... 100%
Switching threshold - min.	-	70 ... 125%	75 ... 110%	-	≤ 1.8 kΩ (reset value)	5 ... 95%	5 ... 95%
Asymmetry	5 ... 25%, OFF	-	-	5 ... 25%, OFF	-	-	-
Additional measuring circuit	-	-	-	PTC	-	-	-
OUTPUT CIRCUIT							
Number of switch contacts	One changeover contact	One changeover contact	One changeover contact	Two changeover contacts	One changeover contact	One changeover contact	Two changeover contacts
Max. switching power	2000 VA	2000 VA	2000 VA	2000 VA	2000 VA	2000 VA	2000 VA

Product Highlights of Tele VEO

V4PF480Y/277VSYTK02

Screw terminal
V4PF480Y/277VSYTK02

Art.No. 2104200

Push-In terminal
V4PF480Y/277VSYTK02P

Art.No. 2104210

Voltage monitoring (3 phase) and
Temperature monitoring (PTC)



Product information

- ✓ Phase sequence and Phase failure monitoring
3 phase (AC)
- ✓ Asymmetry monitoring adjustable (OFF, 5-25%)
- ✓ Thermistor monitoring (PTC)
- ✓ Short circuit detection
- ✓ Auto reset, On delay 200ms
- ✓ Measuring range = Power supply
- ✓ 208/120V AC/DC - 480/277V AC/DC (High Zoom)
- ✓ Output: 2 CO
- ✓ Compact industrial design 45x76x67mm

Benefit

Voltage and temperature monitoring combined
in one device

- ✓ saves wiring effort and reduces costs

Additional temperature monitoring

- ✓ increases safety and reliability of application

V4IM100AL20

Screw terminal

V4IM100AL20 24-240V

Art.No. 2104400

Push-In terminal

V4IM100AL20P 24-240V

Art.No. 2104410

Current monitoring up to 100A with integrated current transformer (1 phase)



Product information

- ☒ Functions: Over, Under, Window, MIN/MAX, Latch
- ☒ Measuring range: 100A AC/DC
- ☒ Cable gland up to a diameter of 15mm or 50mm² cross section
- ☒ Maximum and minimum monitoring by separate CO contacts
- ☒ Direct current (DC) or alternating current (AC) measuring
- ☒ Error latch optional
- ☒ Start up delay (0-10s)
- ☒ Tripping delay (0,1-10s)
- ☒ Power supply: 24-240V AC/DC (Low Zoom)
- ☒ Output: 2 CO
- ☒ Compact industrial design 45x76x67mm

Benefit

External current transformer not applicable

- ☒ saves time at installation and reduces costs

Vertical integration of current transformer

- ☒ saves space at cabinet and facilitates wiring

The little brother with lots of power



We think that the Tele VEO is pretty amazing. It is just as powerful and versatile as its big brother, the Tele GAMMA, and is even more compact to boot. Tele VEO is a miniature all-rounder. Here you can see where the two Tele relays differ and decide which one is right for you.



 **VEO**

Timing relay and monitoring relay

Compact industry design

Low zoom: 12–240 volts

High zoom: 208–480 volts

Powered by the measuring circuit

Analogue operation indicator
using LED technology

**Movable
inscription field**

Settings using potentiometer,
recessed setting controls

-25 °C to +60 °C

Output: 1 changeover contact at
22.5mm or 2 changeover contacts at
45mm

CE

Energy consumption
Type 0.35 watt

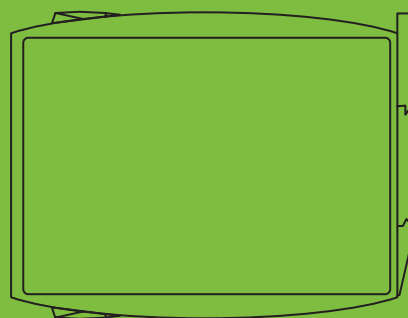
Push-in terminal & screw terminal

Up to 10 time functions

Measurement parameters:

- Current
- Voltage
- Temperature

1-2 measurement ranges per device



 **GAMMA**

Timing relay and monitoring relay

Industry design

Transformer module,
Cool zoom (24–240 volts) AC/DC,
Wide zoom (208–690 volts) AC/DC
Powered by the measuring circuit

Analogue or digital
operation indicator

Inscription field
fixed

Additional digital setting options
Recessed setting controls, sealable

-25 °C to +55 °C

2 changeover contacts at 22.5mm

CE, cULus, GOST

Energy consumption
Type 1 – 1.5 watts

Screw terminal

Up to 16 time functions, incl. remote
potentiometer, instantaneous contact
and potential control contact

Measurement parameters:

- Current
- Voltage
- Temperature
- Effective power
- $\cos \varphi$
- Frequency

up to 4 measurement ranges per device

Type code

V		4		I		M		100A	L		20	P	24-240V AC/DC
Product series		Housing		Measurement parameter		Function		Measurement range	Additional function		Output	Terminal	Mains power
E	ENYA	1	17.5mm	Z	Timing Relay	U	Under	230V	L	Memory	delayed	Push-in	230V AC
V	VEO	2	22.5mm			O	Over	10A	D	Digital	10 1 contact	terminal	24V DC
G	GAMMA	3	35.0mm	U	Voltage 1~	W	Window	400V12A	T	Thermistor	20 2 contacts		24-240V
K	KAPPA	4	45.0mm	I	Current 1~	F	Error	PT100 etc.	Y	Asymmetry	instantaneous		AC/DC
				J	Current 3~				S	Phase sequence	01 1 contact		etc.
				P	Voltage 3~ Δ	M	Multi				02 2 contacts		
				Y	Voltage 3~ Y	Q	Quattro		F	Quick action release	delayed/ instantaneous		
				F	Frequency	E	On-Delay				11		
				T	Temperature	R	Off Delay				1 delayed contact		
				L	Level	I	2 time funct.				1 instantaneous contact		
				B	Effective	S	Star-delta						
				C	Power	A	Off Delay without auxiliary voltage						
					cos φ								

