

# TEMPERATURE MONITORING - GAMMA SERIES

## FUNCTIONS

**UNDER**

The output relay remains switched on until the monitored value falls below the minimum value. As soon as the monitored value exceeds the maximum value, the output relay switches to the on position again.

**WIN**

The output relay remains switched on until the monitored value lies within the defined window. As soon as the monitored value enters the defined window again, the output relay switches to the on position again.

**OVER**

The output relay remains switched on until the monitored value exceeds the maximum value. As soon as the monitored value falls below the minimum value, the output relay switches to the on position again.

**START-UP**

The output relay switches on when the supply voltage is applied. Changes to measured variables have no impact on the setting of the output relay during start-up suppression.

**LATCH (Fault latch)**

If the device detects a fault, the output relay only switches on again when the fault latch has been reset. The fault latch can be reset by means of an internal or external reset button or by interrupting the supply voltage.

**DELAY**

If the monitored value leaves the selected range, the output relay only switches to the off position following expiry of the trip delay.

## TEMPERATURE MONITORING MODELS



Model	<b>G2TMPT100L20 24-240V</b>	<b>G2TF02 24-240V</b>	<b>G2TF02**</b>
Functions	Under, Under + Latch, Over, Over + Latch, Window, Window + Latch	Over, Over + Latch, Reset Button	Over, Over + Latch, Reset Button
Contacts	2 C/O	2 C/O	2 C/O
Measuring Range	PT100 (-50, 0, +50, +100)	Motor Winding PTC Monitoring	Motor Winding PTC Monitoring
Sensor Monitoring / Sensor Number	Yes / 1	No / up to 6	No / up to 6
Control Voltage	24 - 240VAC/DC	24 - 240VAC/DC	12 - 400VAC**
Start-up Delay / Fault Latch	1 - 30 min / Yes	No / Yes	No / Yes
Suitable for Frequency Converters	Yes	Yes	Yes
Size	22.5mm wide	22.5mm wide	22.5mm wide
List Price	<b>\$346.19</b>	<b>\$298.19</b>	<b>\$256.01</b>

\*\* Please Note that a TR2 Voltage Module needs to be selected for models with \*\* and is fitted before dispatch. The List Price above includes the TR2 Module. All TR2 Voltage Modules are listed in the Accessories Section.

# TEMPERATURE MONITORING - GAMMA, VEO & ENYA SERIES

## FUNCTIONS

**OVER**

The output relay remains switched on until the monitored value exceeds the maximum value. As soon as the monitored value falls below the minimum value, the output relay switches to the on position again.

**LATCH (Fault latch)**

If the device detects a fault, the output relay only switches on again when the fault latch has been reset. The fault latch can be reset by means of an internal or external reset button or by interrupting the supply voltage.

**START-UP**

The output relay switches on when the supply voltage is applied. Changes to measured variables have no impact on the setting of the output relay during start-up suppression.

## TEMPERATURE MONITORING MODELS



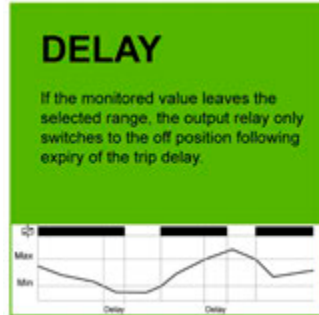
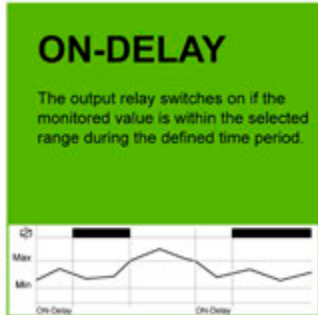
VEO Range  
now with  
**PUSH-IN**  
terminals



Model	G2TFKN02**	V2TF01	E3TF01
Model PUSH-IN Type		V2TF01P	
Functions	Over, Over + Latch, Reset Button, Zero Volt Latch, Thermistor Line Monitoring	Over	Over, Over + Latch, Reset Button
Contacts	2 C/O	1 C/O	1 C/O
Measuring Range	Motor Winding PTC Monitoring	Motor Winding PTC Monitoring	Motor Winding PTC Monitoring
Sensor Monitoring / Sensor Number	No / up to 6	No / up to 6	No / up to 6
Control Voltage	12 - 400VAC**	24 - 240VAC/DC	230VAC
Start-up Delay / Fault Latch	No / Yes	50m sec / No	No / Yes
Suitable for Frequency Converters	Yes	Yes	No
Size	22.5mm wide	22.5mm wide	35mm wide
List Price	<b>\$343.34</b>	<b>\$148.77</b>	<b>\$199.68</b>

# LIQUID LEVEL MONITORING - GAMMA & ENYA SERIES

## FUNCTIONS



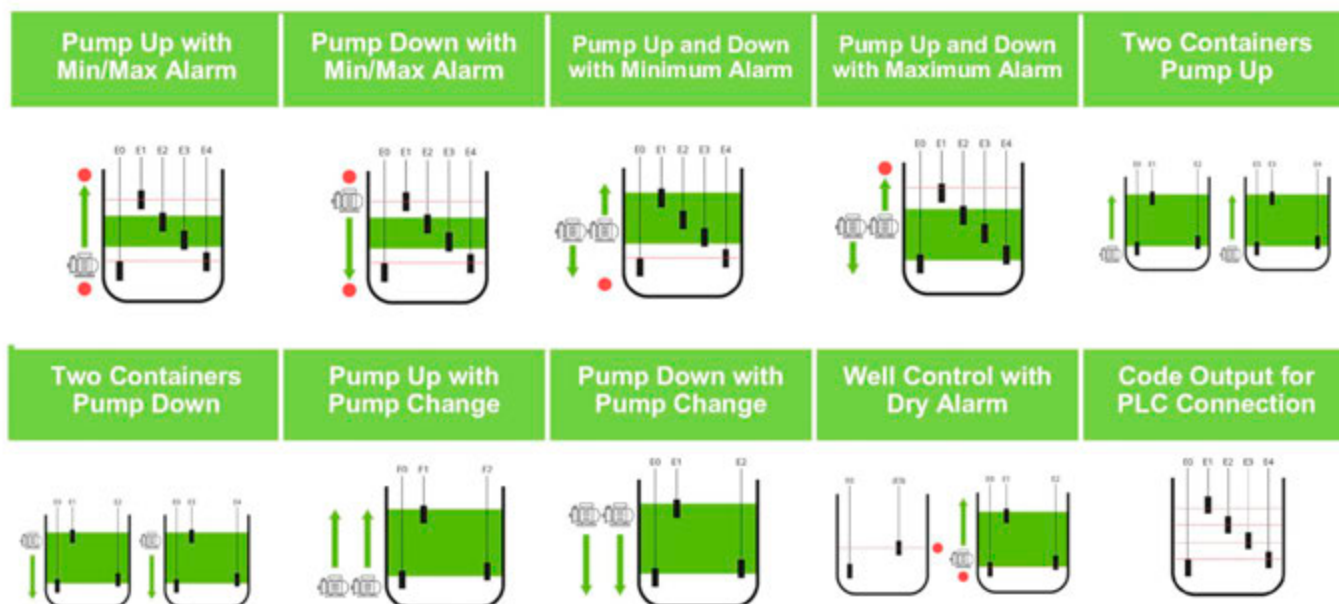
## LIQUID LEVEL MONITORING MODELS



Model	G2LM20 230VAC	G2LM20 24VAC	E3LM10
Functions	Pump Up, Pump Down	Pump Up, Pump Down	Pump Up, Pump Down
Contacts	2 C/O	2 C/O	1 C/O
Control Voltage	230VAC	24VAC	230VAC
Tripping Delay (Delay On)	0.5 - 10 sec	0.5 - 10 sec	0.5 - 10 sec
Turn Off Delay (Delay Off)	0.5 - 10 sec	0.5 - 10 sec	0.5 - 10 sec
Sensitivity Control Adjustable	Yes - 0.5 to 100kΩ	Yes - 0.5 to 100kΩ	Yes - 0.5 to 100kΩ
Suitable for Frequency Converters	Yes	Yes	No
Size	22.5mm wide	22.5mm wide	35mm wide
List Price	<b>\$298.19</b>	<b>\$336.02</b>	<b>\$201.04</b>

# LIQUID LEVEL MONITORING - VEO ENYA SERIES

## FUNCTIONS



## LIQUID LEVEL MONITORING MODELS



<b>Model</b>	<b>V4LM4S30</b>
Functions	4 Probe Plus Reference 10 Function - Multi Function
Contacts	3 C/O
Control Voltage	24 - 240VAC/DC
Delay	0.5 - 10 sec
Sensitivity Control Adjustable	Low - 0.25 to 12.5kΩ High - 10 to 500kΩ
Sensor Voltage Adjustable	AC, 18.33Hz, 100% = 2.3Vrms open-circuit voltage
Suitable for Frequency Converters	Yes
Size	45mm wide
<b>List Price</b>	<b>\$592.58</b>

# PUMP CONTROL - GAMMA SERIES

## FUNCTIONS

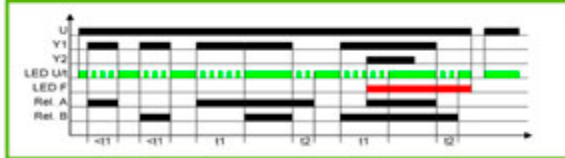
### Mode A (parallel operation triggered by input Y2)

In this mode both outputs are activated in parallel, if the input for parallel operation (Y2-Y3 is closed in addition to the contact for operation request (Y1-Y3). If both inputs are closed or opened simultaneously, the output relays will be activated or deactivated with a fixed timing offset of 2 seconds to avoid water hammer and electrical load peaks. Without activating the input for parallel operation the two outputs are activated one at a time but never in parallel.



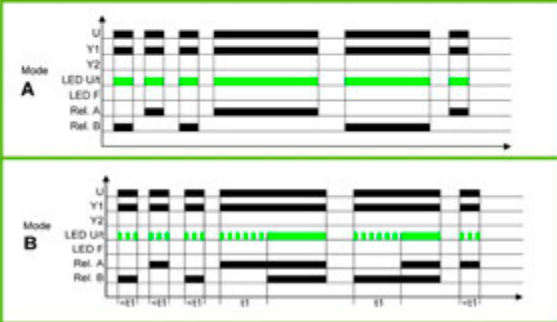
### Mode B (parallel operation triggered by timing)

In this mode the timing dial is set to the selected position unlike the Mode A setting. An interrupted operation request that is longer than the adjusted delay t1 will activate the second output relay for parallel operation. At the end of a period of parallel operation the output added after the delay t1 will drop immediately. The other relay, active from the beginning of the request, will drop with offset of the fixed delay t2.



### Function control by supplied power

With a link wired at the input for operation request (Y1-Y3) alternate operation is activated by supplying the auxiliary voltage to the unit. Using the Mode B setting by adjusting the dial to any time setting the second relay will operate after the set time delay for parallel operation (t1). When supply is disconnected both relays drop immediately. There is no parallel operation in Mode A as it is not recommended to use the contact Y2 in case of control by supplied power.



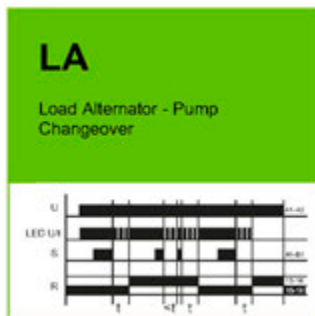
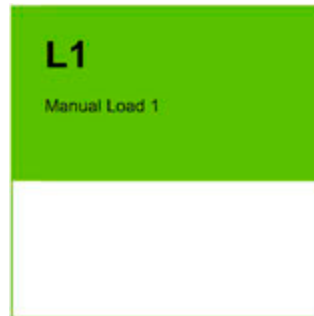
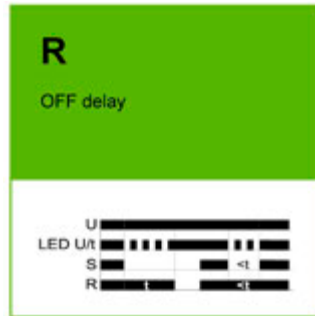
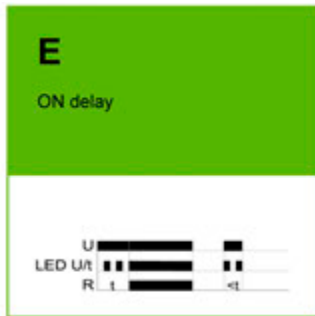
<b>Model</b>	<b>G2ASMA20**</b>
Functions	Pump Alternator
Contacts	2 C/O
Control Voltage	12 - 400VAC**
Mode A	Parallel Operation via Separate Input
Mode B	Parallel Operation via Time Delay / 2 - 300 sec
Duty Cycle Control	Even Distribution of Duty
Parallel Duty On High Demand	Yes
Suitable for Frequency Converters	Yes
Size	22.5mm wide
<b>List Price</b>	<b>\$263.29</b>

\*\* Please Note that a TR2 Voltage Module needs to be selected for models with \*\* and is fitted before dispatch. The List Price above includes the TR2 Module. All TR2 Voltage Modules are listed in the Accessories Section.



# PUMP CONTROL - ENYA SERIES

## FUNCTIONS



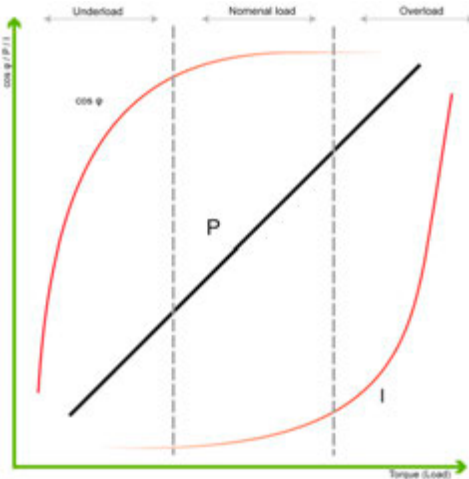
## LOAD ALTERNATOR WITH TIMER



<b>Model</b>	<b>E1ZMLA10</b>
Functions	E, R, L1, LA, L2
Voltage	24 - 240VAC/DC
Contacts	1 C/O Timed/Control
Contact Rating	2000VA (8A - 250VAC)
Time Range	50 msec - 100 hours 7 ranges
Overvoltage Category	III (IEC 60664-1)
Rated Surge Voltage	4kV
Suitable for Frequency Converters	No
Size	17.5mm wide
<b>List Price</b>	<b>\$260.01</b>

# LOAD MONITORING RELAYS - GAMMA SERIES

## TECHNICAL INFORMATION



**Monitoring of motors:** Tele power monitoring systems offer significant advantages, particularly in situations in which monitoring tasks are carried out sensors:

- No recalibration or sensor failure due to recalibration of sensors
- No maintenance or cleaning costs
- Easy to use, even in charged air
- Saving of cabling costs
- No use of explosion-proof barriers necessary
- Simple retrofitting

Using Current Monitoring can be difficult due to the non-linear current draw in fault conditions. Using  $\cos \phi$  Monitoring Relays is perfect for Underload protection but True Power Monitoring Relays can protect Pumps and Motors accurately and safely for both Over & Underload situations.

Examples: Agitators, Crushers, Grinders, Shredders, Compactors, Conveyor Systems, Bridge and Portal Cranes, Centrifugal and Piston Pumps.

## LOAD MONITORING RELAYS



G4BM480V12ADTL20

**G4BM480V12ADTL20\*\*** Digital True Power Monitoring Relay, 1 & 3 Phase, 0.15 - 12A **\$1,071.84**  
 Functions: Digital Setting, Multifunction, Temperature Monitoring of Motor Winding, Fault Latch, Detection of Disconnected Load, Suitable for VFI  
 TR3 Power Module (12-500VAC), 2 C/O, 45mm

**G2BM400V12AL10\*\*** True Power Monitoring Relay, 1 & 3 Phase, 0.5 - 12A - **\$575.41**  
 Functions: Multifunction, Fault Latch, Detection of Disconnected Load, Suitable for VFI, TR2 Power Module (12-440VAC), 1 C/O, 22.5mm wide



G2BA400V12A

**G2BM400V12AFL10\*\*** True Power Monitoring Relay, 1 & 3 Phase, 0.5 - 12A - **\$575.41**  
 Functions: Multifunction, Fault Latch, Detection of Disconnected Load, Suitable for VFI, TR2 Power Module (12-440VAC), 1 C/O, 22.5mm wide

**G4CM690V16ATL20\*\*** Power Factor Monitoring Relay ( $\cos \phi$ ), 1 & 3 Phase, 1 - 16A **\$1,122.73**  
 Functions: Multifunction, Fault Latch, Detection of Disconnected Load, Suitable for VFI, TR3 Power Module (12-500VAC), 2 C/O, 45mm wide

**G2CM400V10AL20\*\*** Power Factor Monitoring Relay ( $\cos \phi$ ), 1 & 3 Phase, 0.5 - 10A **\$310.61**  
 Functions: Multifunction, Fault Latch, Detection of Disconnected Load, Suitable for VFI, TR2 Power Module (12-440VAC), 2 C/O, 22.5mm wide

**G2CU400V10AL10\*\*** Power Factor Monitoring Relay ( $\cos \phi$ ), 1 & 3 Phase, 0.5 - 10A **\$300.53**  
 Functions: Underload Monitoring, Fault Latch, Detection of No-Load, Suitable for VFI, TR2 Power Module (12-440VAC), 2 C/O, 22.5mm wide

\*\* Please Note that a TR3 or TR2 Voltage Module needs to be selected for models with \*\* and is fitted before dispatch. The List Price above includes the TR3 or TR2 Module. All TR3 and TR2 Voltage Modules are listed in the Accessories Section.