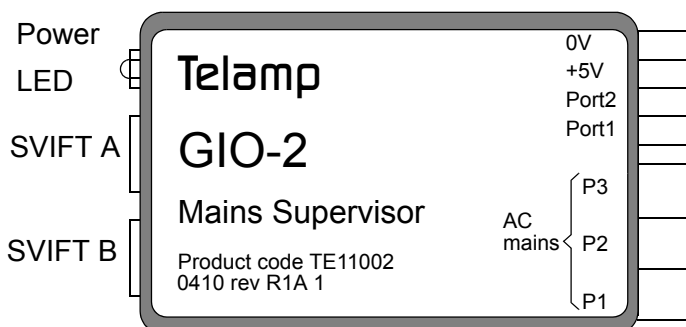


Highly configurable SVIFT supervision unit for mains voltage supervision.

- Has three mains voltage inputs, useful for voltage and/or phase fault detection.
- Detects presence of 1, 2 or 3 phases and indicates phase order in case of 3 phases.
- Also adds 2 general purpose I/O ports.
- Powered either via jack or SVIFT signal interface - typ 12 mA consumption.
- Rich variety of mounting options: DIN-rail, 19" rack, wall...
- Plus all the distinctive SVIFT features: self configured relative addressing, low cost daisy chain bus, open protocol, redundancy capability.



GIO2 is intended for detection of mains voltage outages/failures for system installations. It indicates the rms voltage on each of its three inputs separately and also the frequency as analogue values. It also presents eight different flags indicating undervoltages on each of the three inputs, whether one, two or three phases are present, and also the phase order in case of three phase.

In addition to the mains voltage supervision, GIO2 also has two general purpose digital I/O ports.

Description by SVIFT protocol objects (refer to SVIFT protocol documentation):

Object	Name	Description
4STCTL	StdLED	The LED at the SVIFT interface side of the unit. It is normally lit green when the unit has input power, but can change to red in four states: "Off", "Slow flash", "Fast flash" and "On".
NVSTR	ProdIndivData	A 100byte non-volatile string for storage of arbitrary product administrative data. Its default contents is empty (zero bytes).
ROFLB	IFLAGS	This flag byte has the following bits implemented: "A_INV" and "B_INV". These flags indicate that normal input voltage is missing at either the A or B side SVIFT interfaces. These flags are default configured for no alarm.

Object	Name	Description
ROFLB	MFLAGS	This flag byte - providing mains supervision - has the following bits implemented: "P1low" indicates that P1 voltage is below Vth. "P2low" indicates that P2 voltage is below Vth. "P3low" indicates that P3 voltage is below Vth. "1-phase" indicates P1..P3 represent no more than 1 phase. "2-phase" indicates P1..P3 represent no more than 2 phases. "3-phase" indicates that all three phases are present at P1..P3. "fwd" or "rev" are only activated when "3-phase" and indicates that phase order is P1, P2, P3 ("=fwd") or reversed ("=rev"). All flags can be configured to cause A or B alarm (default no alarm). Vth is configurable (default 180VAC).
ROFLB	Inbits	Any of the two digital I/O ports configured as digital inputs are visible here. The active state (active high or active low) can be configured as well as the A or B alarm state recommendation. The object name ("Inbits") as well as each single port name ("Port1",...) can be configured. This object is only visible if at least one port is configured as digital input.
EVFLB	MEVENT	This EVFLB object is directly related to the MFLAGS object, each bit position has the same name as MFLAGS and catches - when enabled - all changes (high to low or reverse) of that bit. This object enables detection of glitches/faults that occur between the reads of the MFLAGS object.
OUTB	Outbits	Any of the digital I/O configured as digital outputs are available for control here. The active state (active high or active low) can be configured, as well as the object name ("Outbits") and each single port ("Port1",...) name. This object is only visible if at least one port is configured as digital output.
8ROSAN	P1volts, P2volts, P3volts	The analog rms voltage connected to P1, P2 and P3 respectively. The individual scale factors and value type (current or voltage) can be reconfigured. Default is voltage in Volts with 2.5V resolution.
8ROSAN	Freq	Frequency of the leading phase of P1, P2 or P3, in Hz with 0.5Hz resolution

The default configuration of Port1 and Port2 are as inputs. The ROFLB object name is "Inbits" thus present as default and its ports are named "Port1", "Port2".

The following behaviour is also configurable:

- The unit name (default is "GIO_2").
- The hardware address of the unit (default = 1).
- The initial LED state (default is "ON").

All configurations can be done using the freely available SVIFTerm GUI java application program.

Maximum name length - for configurable names - is 9 characters. The configuration can be protected by use of password.

The signal processing of the P1, P2, P3 signals (rectification, filtering/averaging) is all done in software. This means versions of the unit for more specific needs can be developed relatively easy.

Description by pin:

Pin	Description
P1	Fix configured as AC analog input with special handling of undervoltage (detected as MLAGS P1low), phase and frequency. Name, Vth, scale factors and type (voltage/current) configurable.
P2	Fix configured as AC analog input with special handling of undervoltage (detected as MLAGS P1low), phase and frequency. Name, Vth, scale factors and type (voltage/current) configurable.
P3	Fix configured as AC analog input with special handling of undervoltage (detected as MLAGS P1low), phase and frequency. Name, Vth, scale factors and type (voltage/current) configurable.
Port1	Default digital input. Reconfigurable as digital output. Name, polarity and alarm priority also configurable.
Port2	Default digital input. Reconfigurable as digital output. Name, polarity and alarm priority also configurable.
+5V	Supply voltage for external adaption circuitry. Also the reference voltage of the internal A/D converter.
0V	Ground reference of the unit. Same as the SVIFT interface Ground.

Specifications

Dimensions:	85x50x27 mm
Operating Temp Range:	-10C ...+60C
Power Connector:	EIAJ RC-5320 type III
Port Terminal:	Max 1.5mm ² Screw terminal
Power Supply Voltage:	6..12V DC
Current consumption:	typ 12mA + output currents
Feed to SVIFT Interface:	max. 150mA (guaranteed limit <340mA)
Input Pullup (digital inputs):	typ 200uA (47kohm+/-1%) on ports 1-2
Digital Output Drive Current:	5mA (1kohm series res.)
+5V Output and A/D Accuracy:	+/-5% (tighter on request)