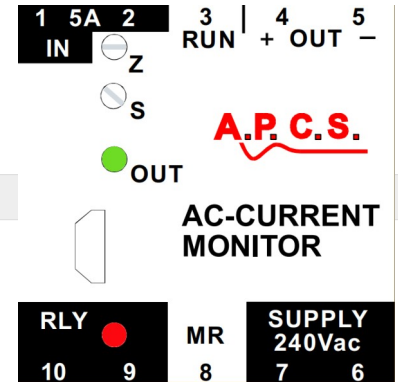


AC-CURRENT MONITOR ACM116

The ACM116 is an isolating transmitter featuring an independently adjustable trip-point with relay contact output. The ACM116 has a standard 5Aac measurement input suitable for an external current transformer to extend the input range.

The ACM116 has one 4-20mA output, six trip point operating modes, three 15 minute delay timers and two voltage free contact logic inputs.



Connection and Top Controls Description

The 4-20mA analog output on T4 and T5 follows the AC current input on T1 and T2. The output span and offset pots are marked as Z and S are used to trim the analogue output if required. The green OUT LED increases in brightness as the input measured increases. The RED LED indicates when the internal relay is energised. A energised relay closes the contacts at T9 and T10 to indicates PASS or not failed condition.

4 Way Galvanic Isolation

The BLACK areas on the top label are galvanically isolated from each other and the white area. The WHITE area on the top label including the terminals and controls all share a common electrical reference to T5. T5 is a common return or 0V point from where the state of T3, T4 and T8 can be measured. Both T3 and T8 are contact inputs internally pulled up to 3.3V and joined to 0V when activated. T4 is the 4-20mA output which will measure close to 24V if left open circuit.

Logic Inputs

The power on delay if enabled stops the fail logic from operating after power is applied to the ACM116. If the **RUN input T3** is not joined to T5 then output relay will remain energised indicating a PASS condition. If latching is enabled the relay will remain at previous fail state if not rest by T8. When the **RUN input T3** is joined the start delay will disable trip logic until the start delay has run.

The **MR input T8** is normally left open during normal operation. If the output relay RLY is programmed as latching, once a failed measurement condition occurs the relay will remain off until reset by T8 to T5. The **MR input** only functions with the latch relay function enabled.

Alarm Operation

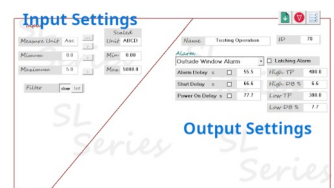
If the measured input current in enters an alarm condition the alarm delay timer starts. RLY will remain closed during the delay period. The alarm delay is reset if the measured input move outside the alarm condition. If measured input remains in an alarm condition longer than the Alarm Delay then RLY will deactivate to a FAIL condition.

If the Latch function is disabled, the RLY will activate and reset delay timer if the measured input returns to a good condition.

*If Latch function is Enabled, the relay contacts will remain open regardless of the input signal level. The latched status can be reset using the master reset, **MR** input.*

Programming

The top mounted micro USB socket is used for configuring the required operating functions using SL300, a WINDOWS© app. Input settings on the left, output settings are on the right.



SL300 – Active Display

The SL300 software reports on the status of the connected module in near real time. The display reports that a ACM116-1111 is connected. Its serial number, internal software revision and internal temperature are reported. The ID displayed is a user generated number for the customers use.

Input 1	Model	ACM116-1111	ID	99
231.1 Aac	Serial No	999	Int. Temp.	32
0-500Aac Latch Low AD SD CAL	Revision	1.003		

The unit is currently measuring 231Aac and is programmed as latching low alarm with alarm and start delay.

SL300 Programs Tab

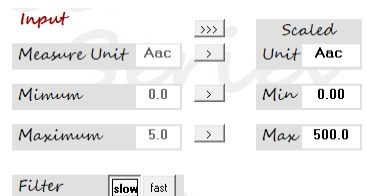
The SL300 can hold multiple programs at one time in tabs. The following image shows a typical tab bar.



The second tab is selected, the program associated with this tab is displayed in the client area.

ACM116 Input Settings

This is a portion of the client area screen for the ACM116.



This screen scales the 0-5A 50Hz input to display actual current when used with an external a 500/5 current transformer.

Trip points on the following Alarm screens are entered in the scaled engineering units.

ACM116 High / Low Alarm Settings

High and low alarm work in a similar way with one obvious difference. The settings for the Low Alarm are shown.

Low Alarm		<input checked="" type="checkbox"/> Latching Alarm
Alarm Delay s	<input checked="" type="checkbox"/>	2.0
Start Delay s	<input checked="" type="checkbox"/>	2.0
Power On Delay s	<input type="checkbox"/>	5.0
Low TP		300.0
Low DB %		1.0

First select High or Low alarm from output drop-down. The alarm delay and start delay are enabled. The power on delay is set on 5 seconds but will have no effect as it has not been enabled. The Start delay will run after the RUN input has been enabled.

After the 5 second start delay if the measured input is drops below 300Aac for more than 2 seconds then RLY will latch off.

ACM116 Inside / Outside Window Alarm Settings

The Inside Window Alarm checks the measured input remains between the low and high trip points.

The outside window alarm checks the opposite.

Inside Window Alarm		<input checked="" type="checkbox"/> Latching Alarm
Alarm Delay s	<input checked="" type="checkbox"/>	2.0
Start Delay s	<input checked="" type="checkbox"/>	2.0
Power On Delay s	<input type="checkbox"/>	5.0
High TP		350
High DB %		1.0
Low TP		250
Low DB %		1.0

First select Inside Window Alarm from the output drop-down setting. Alarm delay and start delay are enabled.

The Trip Points are set at 250Aac and 350Aac. If the measured input is between 250 and 350 for more than 2 seconds then RLY will latch off..

General Specifications

Ordering Code:	ACM116-1111 Power Supply: 90-280Vac 50/60Hz (65-280Vdc)
	ACM116-2111 Power Supply: 10-60Vdc / 16-48V 50/60Hz
	Size: 52W x 70H x 110D (mm).
Housing material:	ABS.
Mounting:	DIN-Rail, gear plate.
Termination:	Screw terminals
Protection class:	IP40.
Operating temp. range:	-10...+60°C.
Storage temp. range:	-20...+70°C.
Repeatability:	0.1% of range.
Relay contact:	N/O 8A/250Vac resistive, 3.5A/250Vac inductive.
Contact isolation:	2kV
Input/output/Supply isolation:	>2.5kVrms.
Process output:	4 to 20mA (800Ω max) on terminals 4 and 5.
Measurement input:	0-5Aac on terminals 1 and 2.
Logic Inputs:	RUN and MR, are pull up internally to 3.3V. Join to terminal 5 using a voltage free contact to operate.
Delay times:	0 to 1000 seconds (16.6 minutes)
Digital filter:	Applies to ac current measurement, run and reset input. Fast is 30mS, slow is 300mS.
Power requirements:	3W.
Electromagnetic compatibility:	AS/NZS 4251.1 (EN 50081.1)

Note: If the ACM116 unit is not mounted on a vertical panel then tape should be used to cover the USB socket to protect from dust buildup.

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