

7SG11 Argus 8

Voltage and Frequency Relays

Document Release History

This document is issue 2010/02 The list of revisions up to and including this issue is:
Pre release

2010/02	Document reformat due to rebrand

Software Revision History

2011/11	2422H80004R7	Fault trigger when the voltage blocking threshold is OFF. IEC 60870-5-103 fault numbering for fault and its measurands
---------	--------------	---

The copyright and other intellectual property rights in this document, and in any model or article produced from it (and including any registered or unregistered design rights) are the property of Siemens Protection Devices Limited. No part of this document shall be reproduced or modified or stored in another form, in any data retrieval system, without the permission of Siemens Protection Devices Limited, nor shall any model or article be reproduced from this document unless Siemens Protection Devices Limited consent.

While the information and guidance given in this document is believed to be correct, no liability shall be accepted for any loss or damage caused by any error or omission, whether such error or omission is the result of negligence or any other cause. Any and all such liability is disclaimed.

Contents

1	System Config Menu	3
2	Voltage Menu	4
3	System A Menu	5
4	System B Menu	5
5	Neutral Voltage Menu.....	6
6	NPS Overvoltage Menu.....	6
7	Frequency Menu	6
8	O/P Relay Config Menu.....	7
9	Status Config Menu.....	8
10	Comms Interface Menu	9
11	Data Storage Menu	9
12	CB Maintenance Menu.....	10

1 System Config Menu

SETTING	RANGE	DEFAULT
Active Settings Group <i>selects the settings group that the relay will act upon</i>	G1-G8	G1
Settings Group Edit/View <i>selects the settings group to be displayed on the LCD</i>	G1-G8	G1
Copy Group <i>allows the contents of one settings group to be copied completely to another group. Note that Copy Group will not allow the copying of a group onto the currently active group</i>	From G1-G8 to G1-G8	From G1-G2
Power System Frequency <i>selects between 50 or 60Hz nominal frequencies</i>	50 / 60 Hz (Note: 300 series are 50Hz only)	50Hz
Voltage Blocking Threshold <i>sets the blocking threshold level which acts to block the Voltage, Frequency and NPS elements</i>	OFF, 1V – 100V step 1V	5V
Connection (3 pole versions) <i>selects different relay configurations and therefore different functions will be made available</i>	3Ph-Ph 3Ph-N+NVD 2Ph-Ph+NVD	3Ph-Ph
Connection (2 pole versions) <i>selects different relay configurations and therefore different functions will be made available</i>	2Ph-Ph Ph-N+NVD Ph-Ph+NVD 2 Systems A/B	2Ph-Ph
Ph VT Primary <i>sets the primary system rated voltage</i>	000000 to 999999 (each of the 6 digits can be set individually)	11000
Ph VT Secondary <i>sets the secondary system rated voltage</i>	40 – 70 step 0.1 70 – 150 step 0.5	110.0
3Vo VT Primary <i>sets the primary neutral rated voltage</i>	000000 to 999999 (each of the 6 digits can be set individually)	11000
3Vo VT Secondary <i>sets the secondary neutral rated voltage</i>	40 – 70 step 0.1 70 – 150 step 0.5	110.0
Set Identifier <i>allows a 13 character alphanumeric code or unique identification reference to be entered for the relay</i>	Up to 16 alphanumeric characters	ARGUS 8
Set Alarm 1 <i>allows a 13 character alphanumeric string to be entered for the General Alarm screen. It will be displayed on energisation of the ALARM 1 status input</i>	Up to 13 alphanumeric characters	ALARM 1
Set Alarm ..n <i>as Alarm 1. There are a maximum of 9 alarms available in Argus 8 relays</i>	Up to 13 alphanumeric characters	ALARM n
Calendar – Set Date <i>sets the current date in DD/MM/YY format</i>	DD/MM/YY	01/01/00
Clock - Set Time <i>sets the current time in HH/MM/SS format. Note that only hours and minutes can be set. The seconds default to zero on pressing the ENTER key</i>	HH:MM:SS	00:00:00

SETTING	RANGE	DEFAULT
Clock Sync. From Status <i>sets the period of synchronisation of the clock to the nearest second or minute. The synchronisation occurs on energisation of the Clock Sync. status input</i>	Seconds or Minutes	Minutes
Default Screen Timer <i>sets the time delay after which, if no key presses have been detected, the relay will begin to poll through any screens which have been selected as default instrument screens</i>	10sec, 60sec, 5min, 1hour	5 min
Change Password <i>allows a 4 character alphanumeric code to be entered as the password. Note that the display shows a password dependant encrypted code on the second line of the display</i>	4 alphanumeric characters	NONE

2 Voltage Menu

SETTING	RANGE	DEFAULT
Gn V Element 1 Operation <i>sets the mode of operation of Voltage Element 1, whether under or over-voltage</i>	OFF, O/V, U/V	OFF
Gn V Element 1 Setting <i>sets the pickup level of Voltage Element 1</i>	5V – 200V step 0.5V	80V
Gn V Element 1 Delay <i>sets the DTL timer value for Voltage Element 1</i>	0.00 – 20.00 step 0.01 sec 20.0 – 100.0 step 0.5 sec 100 – 600 step 1.0 sec	0.00 sec
Gn V Element 1 Hysteresis <i>sets the amount of hysteresis required i.e. the PU/DO ratio</i>	1% – 90% step 1%	2%
Gn V Element 1 O/P Phases <i>sets the number of phases required to operate before an output can be given</i>	Any 1, All	Any 1
Gn V Element 2 Operation	As per Element 1	OFF
Gn V Element 2 Setting	As per Element 1	80V
Gn V Element 2 Delay	As per Element 1	0.00 sec
Gn V Element 2 Hysteresis	As per Element 1	2%
Gn V Element 2 O/P Phases	As per Element 1	Any 1
Gn V Element 3 Operation	As per Element 1	OFF
Gn V Element 3 Setting	As per Element 1	80V
Gn V Element 3 Delay	As per Element 1	0.00 sec
Gn V Element 3 Hysteresis	As per Element 1	2%
Gn V Element 3 O/P Phases	As per Element 1	Any 1
Gn V Element 4 Operation	As per Element 1	OFF
Gn V Element 4 Setting	As per Element 1	80V
Gn V Element 4 Delay	As per Element 1	0.00 sec
Gn V Element 4 Hysteresis	As per Element 1	2%
Gn V Element 4 O/P Phases	As per Element 1	Any 1

The following two menus appear if the '2 Systems A/B' option is selected. They replace the Voltage Menu.

3 System A Menu

SETTING	RANGE	DEFAULT
Gn V Element 1 Operation <i>sets the mode of operation of Voltage Element 1, whether under or over-voltage</i>	OFF, O/V, U/V	OFF
Gn V Element 1 Setting <i>sets the pickup level of Voltage Element 1</i>	5V – 200V step 0.5V	80V
Gn V Element 1 Delay <i>sets the DTL timer value for Voltage Element 1</i>	0.00 – 20.00 step 0.01 sec 20.0 – 100.0 step 0.5 sec 100 – 600 step 1.0 sec	0.00 sec
Gn V Element 1 Hysteresis <i>sets the amount of hysteresis required i.e. the PU/DO ratio</i>	1% – 90% step 1%	2%
Gn V Element 2 Operation	As per Element 1	OFF
Gn V Element 2 Setting	As per Element 1	80V
Gn V Element 2 Delay	As per Element 1	0.00 sec
Gn V Element 2 Hysteresis	As per Element 1	2%

4 System B Menu

SETTING	RANGE	DEFAULT
Gn V Element 3 Operation <i>sets the mode of operation of Voltage Element 3, whether under or over-voltage</i>	OFF, O/V, U/V	OFF
Gn V Element 3 Setting <i>sets the pickup level of Voltage Element 3</i>	5V – 200V step 0.5V	80V
Gn V Element 3 Delay <i>sets the DTL timer value for Voltage Element 3</i>	0.00 – 20.00 step 0.01 sec 20.0 – 100.0 step 0.5 sec 100 – 600 step 1.0 sec	0.00 sec
Gn V Element 3 Hysteresis <i>sets the amount of hysteresis required i.e. the PU/DO ratio</i>	1% – 90% step 1%	2%
Gn V Element 4 Operation	As per Element 1	OFF
Gn V Element 4 Setting	As per Element 1	80V
Gn V Element 4 Delay	As per Element 1	0.00 sec
Gn V Element 4 Hysteresis	As per Element 1	2%

5 Neutral Voltage Menu

SETTING	RANGE	DEFAULT
Gn 3Vo Element 1 Setting <i>sets the pick up level of NVD Element 1</i>	OFF, 1 – 100V step 0.5V	OFF
Gn 3Vo Element 1 Delay <i>sets the DTL timer value for NVD Element 1</i>	0.00 – 20.00 step 0.01 sec 20.0 – 100.0 step 0.5 sec 100 – 600 step 1.0 sec	0.00 sec
Gn 3Vo Element 2 Setting	As per Element 1	OFF
Gn 3Vo Element 2 Delay	As per Element 1	0.00 sec

6 NPS Overvoltage Menu

SETTING	RANGE	DEFAULT
Gn V2 Element 1 Setting <i>sets the pick up level of NPS Element 1</i>	OFF, 1 – 100V step 0.5V	OFF
Gn V2 Element 1 Delay <i>sets the DTL timer value for NPS Element 1</i>	0.00 – 20.00 step 0.01 sec 20.0 – 100.0 step 0.5 sec 100 – 600 step 1.0 sec	0.00 sec
Gn V2 Element 2 Setting	As per Element 1	OFF
Gn V2 Element 2 Delay	As per Element 1	0.00 sec

7 Frequency Menu

SETTING	RANGE	DEFAULT
Gn F Element 1 Operation <i>sets the mode of operation of Frequency Element 1, whether under or over-frequency</i>	OFF, O/F, U/F	OFF
Gn F Element 1 Setting <i>sets the pick up level for Frequency Element 1</i>	47.00Hz – 62.00Hz step 0.01Hz	50.00Hz
Gn F Element 1 Delay <i>Sets the DTL timer value for Frequency Element 1</i>	0.00 – 20.00 step 0.01 sec 20.0 – 100.0 step 0.5 sec 100 – 600 step 1.0 sec	0.00 sec
Gn F Element 1 Inhib <i>sets which voltage element operation should block Frequency Element 1 from operating</i>	VE1, VE2, VE3, VE4	NONE
Gn F Element 2 Operation	As per Element 1	OFF
Gn F Element 2 Setting	As per Element 1	50.00Hz
Gn F Element 2 Delay	As per Element 1	0.00 sec
Gn F Element 2 Inhib	As per Element 1	NONE
Gn F Element 3 Operation	As per Element 1	OFF
Gn F Element 3 Setting	As per Element 1	50.00Hz
Gn F Element 3 Delay	As per Element 1	0.00 sec
Gn F Element 3 Inhib	As per Element 1	NONE
Gn F Element 4 Operation	As per Element 1	OFF
Gn F Element 4 Setting	As per Element 1	50.00Hz
Gn F Element 4 Delay	As per Element 1	0.00 sec
Gn F Element 4 Inhib	As per Element 1	NONE

8 O/P Relay Config Menu

SETTING	RANGE	DEFAULT
Gn Relay Healthy <i>sets the output relay operated by the relay(s) watchdog monitor. An output relay with a changeover or normally closed contact should be used for this function</i>	RL1..RLn	RL1
Gn V Block Alarm <i>sets the output relay(s) operated by the Voltage Blocking Threshold function</i>	RL1..RLn	None
Gn VE1 Starter <i>sets the output relay(s) operated by the Voltage Element 1 starter function</i>	RL1..RLn	None
Gn VE1 Trip <i>sets the output relay(s) operated by the Voltage Element 1 trip function</i>	RL1..RLn	None
Gn VE2 Starter	RL1..RLn	None
Gn VE2 Trip	RL1..RLn	None
Gn VE3 Starter	RL1..RLn	None
Gn VE3 Trip	RL1..RLn	None
Gn VE4 Starter	RL1..RLn	None
Gn VE4 Trip	RL1..RLn	None
Gn 3VoE1 Starter <i>sets the output relay(s) operated by the NVD Element 1 starter function</i>	RL1..RLn	None
Gn 3VoE1 Trip <i>sets the output relay(s) operated by the NVD Element 1 trip function</i>	RL1..RLn	None
Gn 3VoE2 Starter	RL1..RLn	None
Gn 3VoE2 Trip	RL1..RLn	None
Gn V2E1 Starter <i>sets the output relay(s) operated by the NPS Element 1 starter function</i>	RL1..RLn	None
Gn V2E1 Trip <i>sets the output relay(s) operated by the NPS Element 1 trip function</i>	RL1..RLn	None
Gn V2E2 Starter	RL1..RLn	None
Gn V2E2 Trip	RL1..RLn	None
Gn FE1 Starter <i>sets the output relay(s) operated by the Frequency Element 1 starter function</i>	RL1..RLn	None
Gn FE1 Trip <i>sets the output relay(s) operated by the Frequency Element 1 trip function</i>	RL1..RLn	None
Gn FE2 Starter	RL1..RLn	None
Gn FE2 Trip	RL1..RLn	None
Gn FE3 Starter	RL1..RLn	None
Gn FE3 Trip	RL1..RLn	None
Gn FE4 Starter	RL1..RLn	None
Gn FE4 Trip	RL1..RLn	None
Gn Status 1 <i>sets the output relay(s) operated by Status Input 1 energisation</i>	RL1..RLn	None

SETTING	RANGE	DEFAULT
Gn Status ..n <i>sets the output relay(s) operated by Status Input n energisation</i>	RL1..RLn	None
Gn Trip counter Alarm <i>sets the output relay(s) operated by the Trip Counter Alarm function</i>	RL1..RLn	None
Gn PowerOn Count <i>sets the output relay(s) operated by the Power On Count Alarm function</i>	RL1..RLn	None
Gn Hand Reset <i>sets the output relay(s) which are to stay latched after operation. These can be reset via the fascia, a status input, or a communications command</i>	RL1..RLn	None
Min O/P Energise Time <i>sets the minimum output pulse length of energised output relays</i>	100 – 500ms step 50ms	100ms

9 Status Config Menu

SETTING	RANGE	DEFAULT
Settings Group Select <i>sets the status input(s) required to select a settings group to become the active settings group. Note that the lower the number of status input, the higher precedence that it has e.g. Status 1 will take precedence over all the rest</i>	S1..Sn (each status can be set from 1-8 to select active group 1-8)	None
Inverted Inputs <i>sets the status input(s) required to be inverted. Any function assigned to an inverted input becomes active when the input is de-energised</i>	S1..Sn	None
Gn VE1 Inhibit <i>sets the status input(s) which will inhibit Voltage Element 1</i>	S1..Sn	None
Gn VE2 Inhibit	S1..Sn	None
Gn VE3 Inhibit	S1..Sn	None
Gn VE4 Inhibit	S1..Sn	None
Gn 3VoE1 Inhibit	S1..Sn	None
Gn 3VoE2 Inhibit	S1..Sn	None
Gn V2E1 Inhibit	S1..Sn	None
Gn V2E2 Inhibit	S1..Sn	None
Gn FE1 Inhibit	S1..Sn	None
Gn FE2 Inhibit	S1..Sn	None
Gn FE3 Inhibit	S1..Sn	None
Gn FE4 Inhibit	S1..Sn	None
Gn Trip Circuit Fail <i>sets the status input(s) which will be used within the Trip Circuit Monitoring scheme</i>	S1..Sn	None
Gn ALARM 1 <i>sets the status input(s) which, on energisation, will cause the Alarm 1 message to be displayed on the LCD</i>	S1..Sn	None
Gn ALARM ..n	S1..Sn	None
Gn Waveform Trigger <i>sets the status input(s) which, on energisation, will cause a waveform record to be stored</i>	S1..Sn	None

SETTING	RANGE	DEFAULT
Gn Clock Sync. <i>sets the status input(s) which, on energisation, will synchronise the real time clock to the nearest second or minute</i>	S1..Sn	None
Gn Reset Outputs <i>sets the status input(s) which, on energisation, will reset the Trip LED and any latched output relays</i>	S1..Sn	None
Gn Status 1 P/U Delay <i>sets the delay period to be applied to the pick-up of Status Input 1</i>	0 – 2.00 sec step 10ms 2.10 – 20.00 sec step 100ms 21 – 300 sec step 1 sec 360 – 3600 sec step 60 sec 3900 – 14400 sec step 300 sec	0.02sec
Gn Status 1 D/O Delay <i>sets the delay period to be applied to the drop-off of Status Input 1</i>	As above	0.00sec
Gn Status n P/U Delay	As Status 1	0.02sec
Gn Status n D/O Delay	As Status 1	0.00sec

10 Comms Interface Menu

SETTING	RANGE	DEFAULT
Comms Protocol <i>Sets the communications protocol</i>	IEC60870-5-103, MODBUS-RTU	IEC60870-5-103
Class 2 Update Period <i>Sets the IEC60870 Class 2 measurand update period</i>	INST, 1 – 60 sec	15 sec
IEC Class 2 Scaling <i>Sets the IEC60870 Class 2 measurand scaling factor</i>	1.2x, 2.4x	1.2x
Comms Baud Rate <i>sets the required communications Baud Rate</i>	75, 110, 150, 300, 600, 1200, 2400, 4800, 9600, 19200	19200
Comms Parity <i>selects whether a parity check is transmitted with the comms data</i>	NONE, EVEN	EVEN
Relay Address <i>sets the required address of a particular relay within a network</i>	0 – 254	0
Line Idle <i>sets the required communications line idle sense</i>	LIGHT ON, LIGHT OFF	LIGHT OFF
Data Echo <i>enables Data Echo which is necessary for use with relays connected in a ring</i>	OFF / ON	OFF

11 Data Storage Menu

SETTING	RANGE	DEFAULT
Gn Fault Trigger <i>sets the output relay(s) which are connected as trip outputs for the purpose of giving trip information and storing fault records</i>	RL1..RLn	None
Gn Waveform Trig <i>selects which functions trigger a waveform record</i>	STA, V, F, NPS, NVD	STA+V+NPS+NVD+F

SETTING	RANGE	DEFAULT
Gn Waveform Pre-trigger <i>selects which functions trigger a waveform record</i>	OFF, 10%-100% step 10%	50%
Clear All Waveforms <i>clears all the waveform records stored. Note that this can also be done at the instruments display. (see Section 1 Fig 6)</i>	NO, YES (Confirmation required)	NO
Clear All Events <i>clears all the event records stored. Note that this can also be done at the instruments display. (see Section 1 Fig 6)</i>	NO, YES (Confirmation required)	NO
Clear Fault Data <i>clears all the fault data records stored</i>	NO, YES (Confirmation required)	NO

12 CB Maintenance Menu

SETTING	RANGE	DEFAULT
Trip Counter Alarm <i>sets a target value for which an alarm output will be given when the value is reached</i>	OFF, 1 – 999 step 1	OFF
Trip Counter Reset <i>resets the Trip Counter to zero</i>	NO, YES (Confirmation required)	NO
Power On Count Alarm <i>sets a target value for which an alarm output will be given when the value is reached</i>	OFF, 1 – 999 step 1	OFF
Power On Count Reset <i>resets the Trip Counter to zero</i>	NO, YES (Confirmation required)	
O/P Test <i>allows any combination of output relays to be energised. This is achieved by selecting one of the output settings defined in the O/P Relay Config Menu. Note that the relay is energised after 10 seconds have elapsed and is energised for only 100 ms</i>	Any output relay option	OFF