CONTROL RELAY

Control relay "OFF" then relay will function according to the condition mention in the following tables. Control relay "ON" then functioning of relay will be just opposite to the condition mention in the table. Lamp functioning will be as mention in the table i.e. no change in the LED status.

Alarm AL1 (Momentary Alarm): when in abnormal condition ACK not pressed.

Condition			Normal	Abnormal	UP	DOWN	ACK**	Normal*	ACK***
High	Alarm Latch(Yes)	LAMP	OFF	FLASH	FLASH	OFF		FLASH	OFF
		RELAY	OFF	ON	ON	OFF		OFF	OFF
	Alarm Latch(No)	LAMP	OFF	FLASH	FLASH	OFF		OFF	OFF
		RELAY	OFF	ON	ON	OFF		OFF	OFF
	Trip	LAMP	OFF	FLASH	OFF	OFF		FLASH	OFF
		RELAY	OFF	ON	OFF	OFF		ON	OFF
Low	Alarm Latch(Yes)	LAMP	OFF	FLASH	OFF	FLASH		FLASH	OFF
		RELAY	OFF	ON	OFF	ON		OFF	OFF
	Alarm Latch(No)	LAMP	OFF	FLASH	OFF	FLASH		OFF	OFF
		RELAY	OFF	ON	OFF	ON		OFF	OFF
	Trip	LAMP	OFF	FLASH	OFF	OFF		FLASH	OFF
		RELAY	OFF	ON	OFF	OFF		ON	OFF
VLow	Alarm Latch(Yes)	LAMP	OFF	FLASH	OFF	FLASH		FLASH	OFF
		RELAY	OFF	ON	OFF	ON		OFF	OFF
	Alarm Latch(No)	LAMP	OFF	FLASH	OFF	FLASH		OFF	OFF
		RELAY	OFF	ON	OFF	ON		OFF	OFF
	Trip	LAMP	OFF	FLASH	OFF	OFF		FLASH	OFF
		RELAY	OFF	ON	OFF	OFF		ON	OFF

Table 1.1

Alarm AL2 (Momentary Alarm): when in abnormal condition ACK not pressed.

Condition			Normal	Abnormal	UP	DOWN	ACK**	Normal*	ACK***
VHigh	Alarm Latch(Yes)	LAMP	OFF	FLASH	FLASH	OFF		FLASH	OFF
		RELAY	OFF	ON	ON	OFF		OFF	OFF
	Alarm Latch(No)	LAMP	OFF	FLASH	FLASH	OFF		OFF	OFF
		RELAY	OFF	ON	ON	OFF		OFF	OFF
	Trip	LAMP	OFF	FLASH	OFF	OFF		FLASH	OFF
		RELAY	OFF	ON	OFF	OFF		ON	OFF
High	Alarm Latch(Yes)	LAMP	OFF	FLASH	FLASH	OFF		FLASH	OFF
		RELAY	OFF	ON	ON	OFF		OFF	OFF
	Alarm Latch(No)	LAMP	OFF	FLASH	FLASH	OFF		OFF	OFF
		RELAY	OFF	ON	ON	OFF		OFF	OFF
	Trip	LAMP	OFF	FLASH	OFF	OFF		FLASH	OFF
		RELAY	OFF	ON	OFF	OFF		ON	OFF
Low	Alarm Latch(Yes)	LAMP	OFF	FLASH	OFF	FLASH		FLASH	OFF
		RELAY	OFF	ON	OFF	ON		OFF	OFF
	Alarm Latch(No)	LAMP	OFF	FLASH	OFF	FLASH		OFF	OFF
		RELAY	OFF	ON	OFF	ON		OFF	OFF
	Trip	LAMP	OFF	FLASH	OFF	OFF		FLASH	OFF
		RELAY	OFF	ON	OFF	OFF		ON	OFF

Table 1.2

Alarm AL1 (Maintained Alarm): when in abnormal condition ACK is pressed.

Condition			Normal	Abnormal	UP	DOWN	ACK**	Normal*	ACK***
High	Alarm Latch(Yes)	LAMP	OFF	FLASH	FLASH	OFF	STEADY	STEADY	OFF
		RELAY	OFF	ON	ON	OFF	ON	OFF	OFF
	Alarm Latch(No)	LAMP	OFF	FLASH	FLASH	OFF	STEADY	OFF	OFF
		RELAY	OFF	ON	ON	OFF	OFF	OFF	OFF
	Trip	LAMP	OFF	FLASH	OFF	OFF	STEADY	STEADY	OFF
		RELAY	OFF	ON	OFF	OFF	ON	ON	OFF
Low	Alarm Latch(Yes)	LAMP	OFF	FLASH	OFF	FLASH	STEADY	STEADY	OFF
		RELAY	OFF	ON	OFF	ON	ON	OFF	OFF
	Alarm Latch(No)	LAMP	OFF	FLASH	OFF	FLASH	STEADY	OFF	OFF
		RELAY	OFF	ON	OFF	ON	OFF	OFF	OFF
	Trip	LAMP	OFF	FLASH	OFF	OFF	STEADY	STEADY	OFF
		RELAY	OFF	ON	OFF	OFF	ON	ON	OFF
VLow	Alarm Latch(Yes)	LAMP	OFF	FLASH	OFF	FLASH	STEADY	STEADY	OFF
		RELAY	OFF	ON	OFF	ON	ON	OFF	OFF
	Alarm Latch(No)	LAMP	OFF	FLASH	OFF	FLASH	STEADY	OFF	OFF
		RELAY	OFF	ON	OFF	ON	OFF	OFF	OFF
	Trip	LAMP	OFF	FLASH	OFF	OFF	STEADY	STEADY	OFF
		RELAY	OFF	ON	OFF	OFF	ON	ON	OFF

Table 1.3

Alarm AL2 (Maintained Alarm): when in abnormal condition ACK is pressed.

Condition			Normal	Abnormal	UP	DOWN	ACK**	Normal*	ACK***
VHigh	Alarm Latch(Yes)	LAMP	OFF	FLASH	FLASH	OFF	STEADY	STEADY	OFF
		RELAY	OFF	ON	ON	OFF	ON	OFF	OFF
	Alarm Latch(No)	LAMP	OFF	FLASH	FLASH	OFF	STEADY	OFF	OFF
		RELAY	OFF	ON	ON	OFF	OFF	OFF	OFF
	Trip	LAMP	OFF	FLASH	OFF	OFF	STEADY	STEADY	OFF
		RELAY	OFF	ON	OFF	OFF	ON	ON	OFF
High	Alarm Latch(Yes)	LAMP	OFF	FLASH	FLASH	OFF	STEADY	STEADY	OFF
		RELAY	OFF	ON	ON	OFF	ON	OFF	OFF
	Alarm Latch(No)	LAMP	OFF	FLASH	FLASH	OFF	STEADY	OFF	OFF
		RELAY	OFF	ON	ON	OFF	OFF	OFF	OFF
	Trip	LAMP	OFF	FLASH	OFF	OFF	STEADY	STEADY	OFF
		RELAY	OFF	ON	OFF	OFF	ON	ON	OFF
Low	Alarm Latch(Yes)	LAMP	OFF	FLASH	OFF	FLASH	STEADY	STEADY	OFF
		RELAY	OFF	ON	OFF	ON	ON	OFF	OFF
	Alarm Latch(No)	LAMP	OFF	FLASH	OFF	FLASH	STEADY	OFF	OFF
		RELAY	OFF	ON	OFF	ON	OFF	OFF	OFF
	Trip	LAMP	OFF	FLASH	OFF	OFF	STEADY	STEADY	OFF
		RELAY	OFF	ON	OFF	OFF	ON	ON	OFF

*means normal condition after abnormal has occurred. , **means ACK pressed in abnormal condition.
***means ACK pressed in normal condition after abnormal has occurred.

Table 1.4

Square Root Linearization

The formula for square root is:

$$PV = Zero + [(Span - Zero)\sqrt{Vinput - Vlow/(Vhigh - Vlow)}\ ]$$

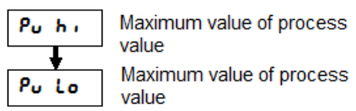
Where: Span is the high end of process variable
Zero is the low end of process variable
Vinput is actual voltage or current value of input
Vhigh is the high end of input signal range (5V or 20mA)
Vlow is the high end of input signal range (1V or 4mA)

Example: PV is 0-1000
Input signal range is 1-5V
Input signal is 3V
PV will be,

$$PV = 0 + [(1000-0)\sqrt{(3-1)/(5-1)}\ ] = 707$$

Digital Input

Press ENTER key to enter in to the submenu of digital input when display shows "dIIP".
The submenus of "dIIP" are as shown:



When display shows "dIIP" and user presses ENTER key display message will be either "Pu hi" or "Pu Lo" depending up on previously selected. If display shows "Pu hi" then by pressing UP key display changes to "Pu Lo" and even after user presses UP key last display will be "Pu Lo". Similarly, if display shows "Pu Lo" then by pressing DOWN key display changes to "Pu hi" and even after user presses DOWN key last display will be "Pu hi". For selection of specific menu i.e. "Pu hi" or "Pu Lo" press ENTER key, display will show corresponding value of process value. To come out from submenus i.e. "Pu hi" or "Pu Lo" press MENU key display will be "dIIP".

Maximum value of PV

When display shows "Pu hi" press ENTER key to see the maximum process value which instrument has measured. To come out of this press MENU key display will be "Pu hi".

Minimum Value of PV

When display shows "Pu Lo" press ENTER key to see the minimum process value which instrument has measured. To come out of this press MENU key display will be "Pu Lo".

When 24V Signal applied momentarily at the DI terminal (or Power OFF) then it will clear both values and same value will be stored in "Pu hi" and in "Pu Lo". Input is OPEN then message OVER will be in PV HI and UNDER will be in "Pu Lo". Note that during power on wait until all functionality initialized otherwise "Pu hi/Lo" values will be wrong.

Specifications are subject to change without notice due to continuous improvements.

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