

ON-OFF-AUTO PRODUCTS

Application Note

Many applications call for on-off-auto (or hand-off-auto) controls. This is where a three position switch is used to determine how a load is to be controlled – either manually or automatically by a PLC or DCS.

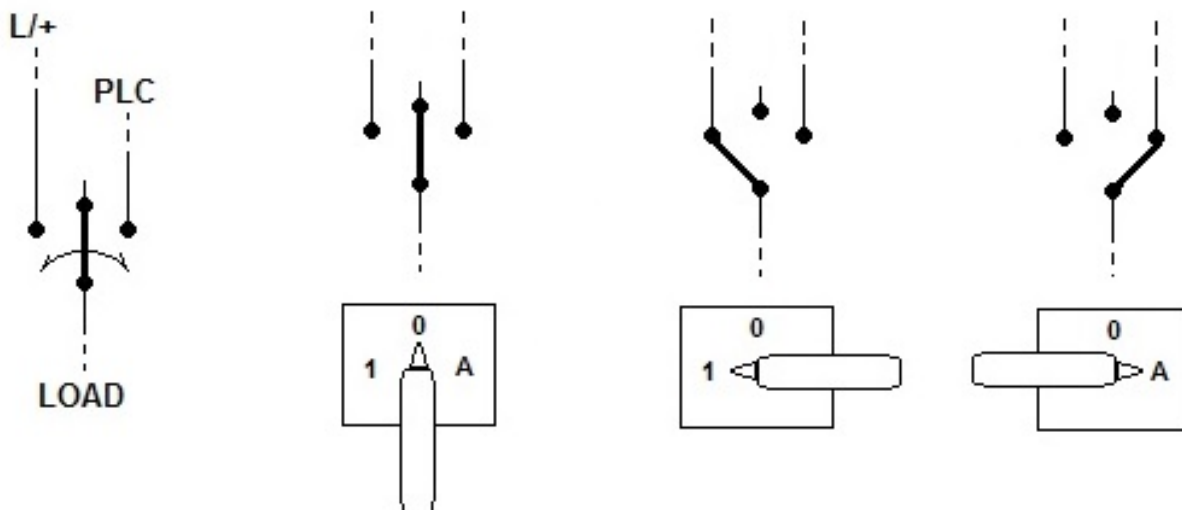
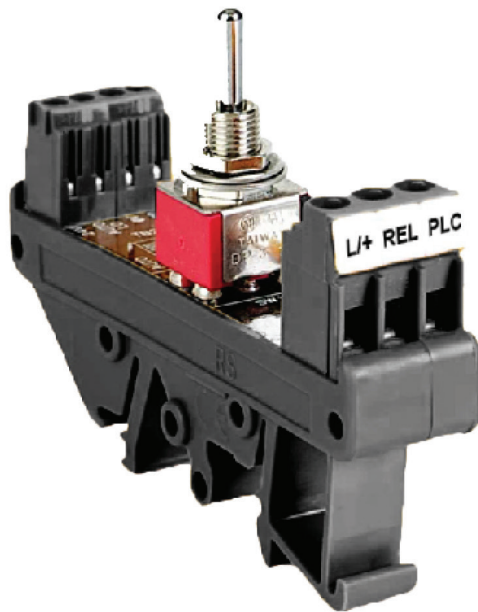


Figure 1

Referring to the sketch above, the “1”, or on, position applies power to the load so it runs continuously until manually switched off. The center position switches off and isolates the load.

The “A”, or automatic, position allows the PLC (or DCS) to control the load. The “load” could be the actual load device such as a motor or it could be a relay or contactor that controls the power to the actual load. In the case when it is the actual load device there is likely an interposing relay or contactor between the PLC and the three position switch.

Weidmuller offers three products for 1-0-A applications. The first one is shown in figure 1, it is a three position switch module. It is designed to be installed in series with an interposing relay or contactor’s coil. A unique feature is a digital output signal that can be fed back to a digital input to tell the PLC when the relay/contactor is under PLC control or when it is under manual control.



EMPHATEC SigNext® 1-0-A Switch Module
Order Number : 330221



EMPHATEC SigNext® IRM/1-0-4
Order Number : 330222



EMPHATEC SigNext® KSR
Order Number : 330371

The product shown in Figure 2 combines the three position switch and a 5A relay in a compact, DIN rail mounted package.

The newest Emphatec product for 1-0-A applications is the Emphatec SigNext® - KSR module in the new ADVANCED housing, shown in Figure 3. This module offers a high level of security against accidental operation or tampering by using keyswitches instead of a three position switch. It includes a status output signal, plug and socket connections and a compact package.

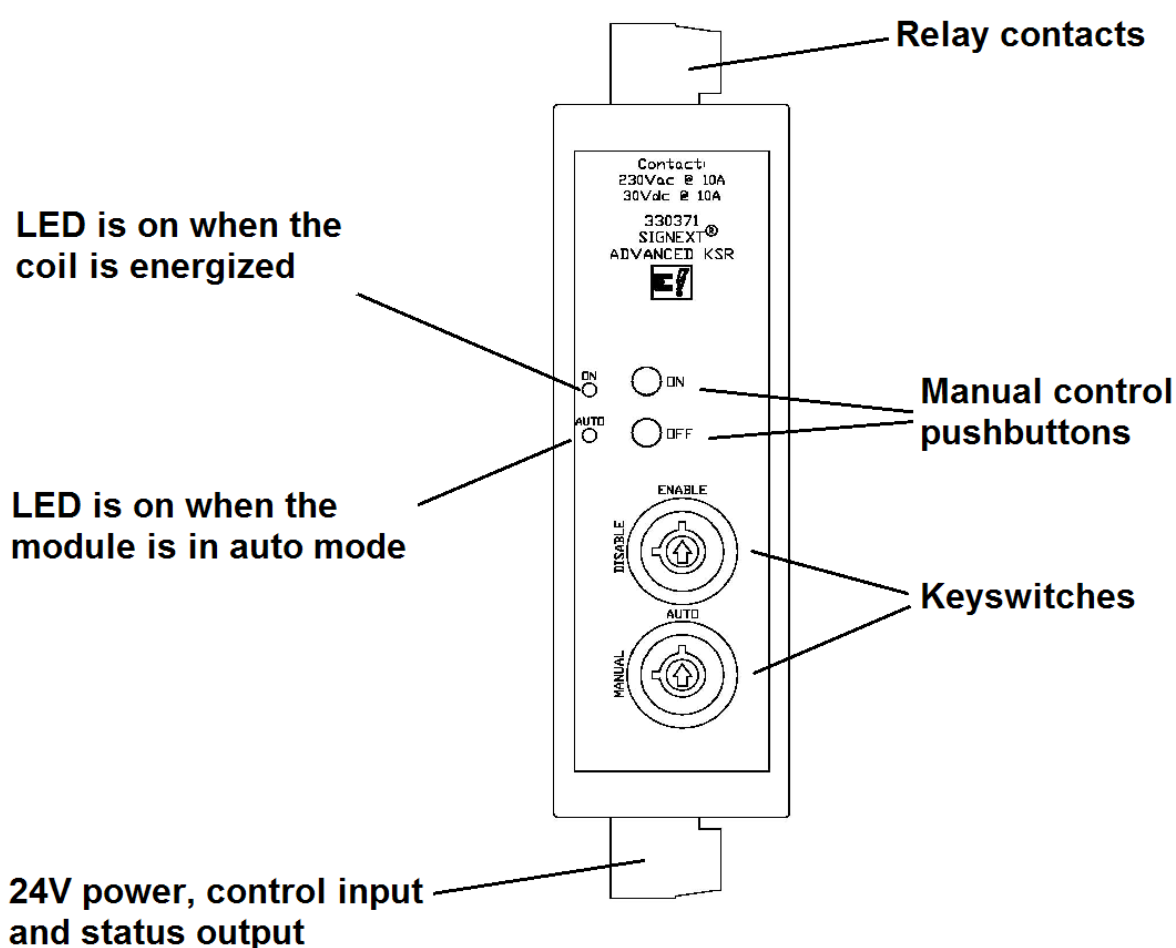
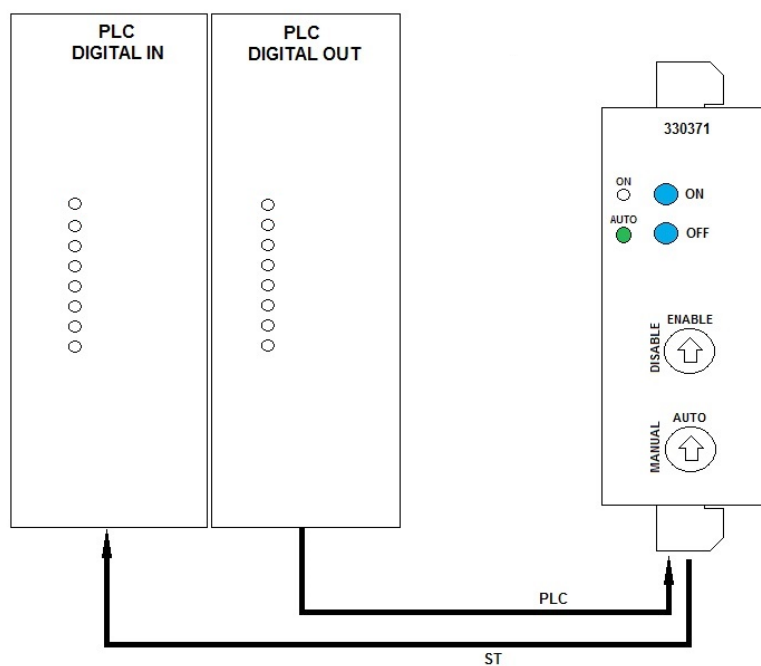
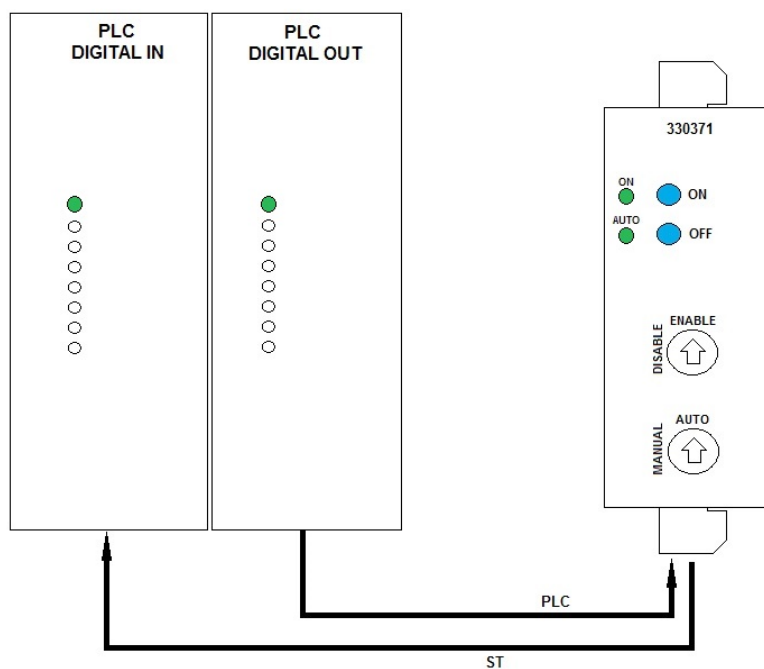


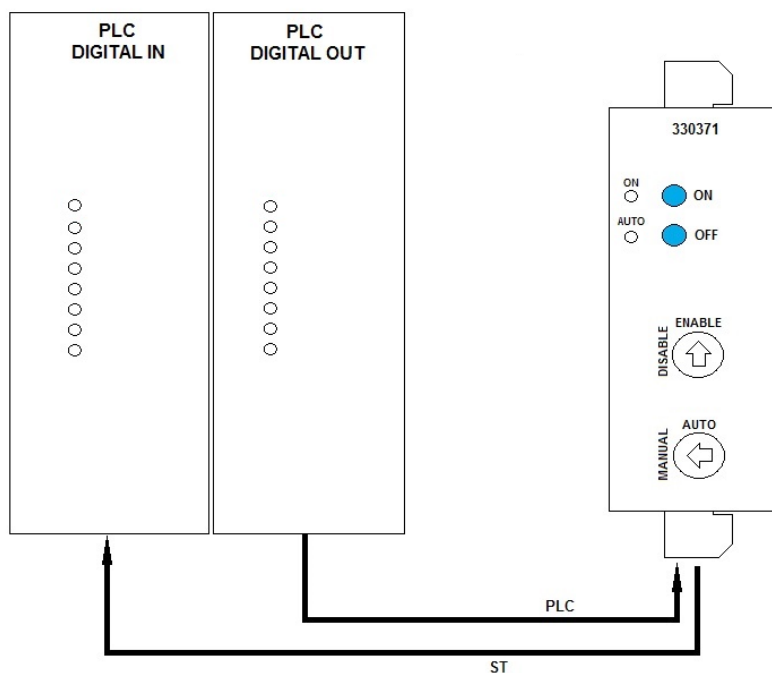
Figure 2



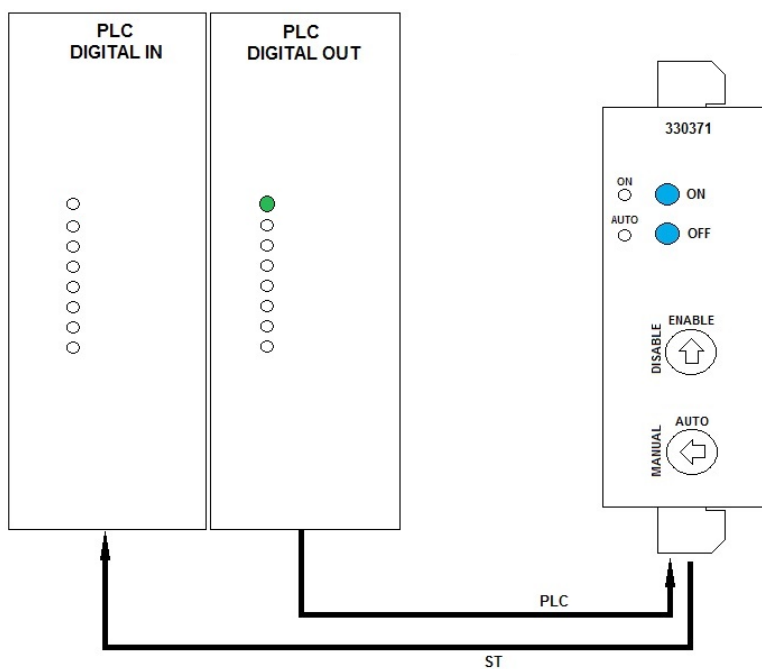
When in auto mode the AUTO LED is illuminated.



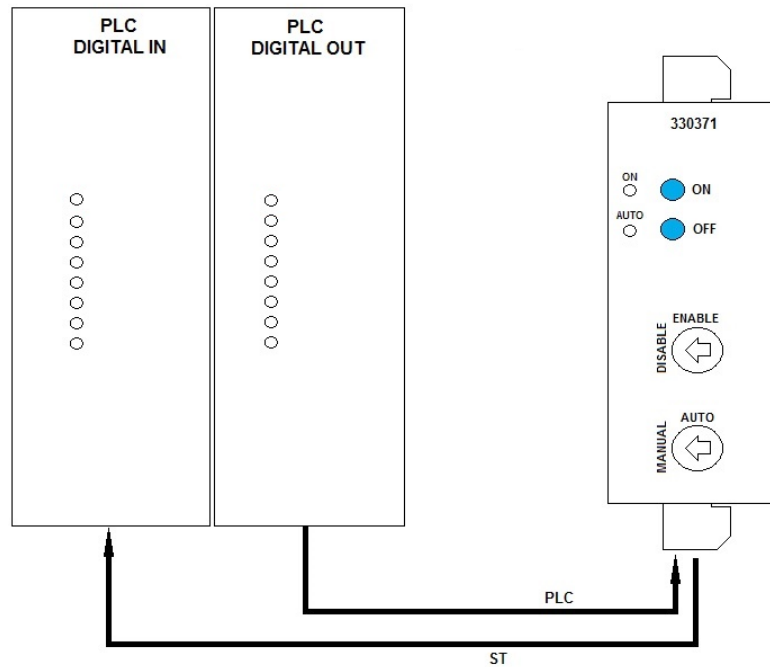
When the PLC energizes the KSR input the ON LED illuminates and the status output ST is energized.



When switched to manual mode the AUTO LED turns off.



The PLC cannot energize the relay when the MCR is in manual mode - only the ON/OFF pushbuttons can be used.



When disabled, the output of the MCR cannot be activated, the AUTO LED is off, the status output is not energized and the ON/OFF pushbuttons are not active. Changing from manual mode to auto mode has no impact..

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Subject to technical changes

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