

Complete Your Architecture

Application Technique



Allen-Bradley

How Do You Control an Electric Motor When the Communication Network Fails?

Use DeviceLogix™ Technology to Program an Orderly Shutdown

Customer Need

“What happens when the communication network fails?” If this question is not addressed before a new network-based motor control system is deployed, manufacturers and process companies could experience unexpected production losses.

The following situations can cause network issues.

- Maintenance staff accidentally removes or cuts a network communication cable.
- Component fails in the network infrastructure (for example, a network switch for an Ethernet network).
- A device is added that has the same network address as another device already on the network.
- Electrical noise from the motor control technology interferes with network communication.

Most network-based motor control systems go to an “off” state when network communication is disrupted, but is that the right motor state for a specific process or application?



Component Solution

When choosing a network-based motor control system, make sure that the motor control system can be programmed to go “off,” “on,” or “hold last state.” Programmable devices allow some flexibility to make sure that specific motors can remain running so that a process or batch is not ruined when the network is disrupted.

Some network-based motor control systems can hold the last motor state for a specified period until a secondary control system takes control. Otherwise, the motor goes to a programmed state (“off” or “on”) after this specified time period until an automation control system establishes communications again.

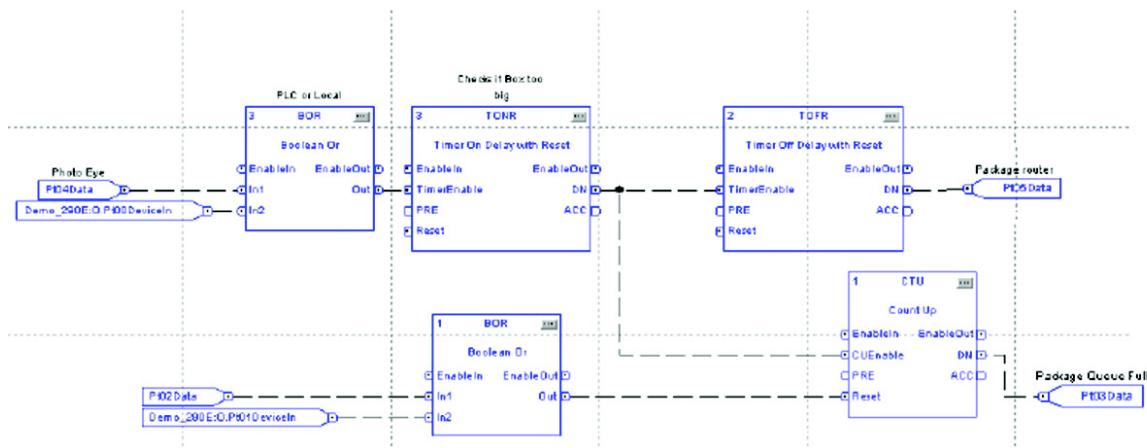
Another feature to consider is the ability to manually override the state of the electric motor at the electrical control panel. Some network-based motor control devices let you wire Local/Remote (Hand/Auto) selector switches into the motor control system. These control devices can also have an integrated or panel-mounted human-machine interface to allow a manual override.

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Finally, some network-based motor control devices contain programmable control logic. DeviceLogix technology is a platform-independent logic engine that is embedded into several Allen-Bradley devices, such as push button stations, overload relays, motor starters, and drives, making them all smart devices. This logic engine provides the maximum flexibility with which an electric motor could be programmed to finish its process and gracefully shut off when the communication network is disrupted instead of ruining the batch or process.



Summary

If you are considering upgrading your motor control system to realize the benefits of using network-based motor controls, choose the appropriate smart devices that have the features to execute your plan when the communication network fails.

Product Selection

Description	Cat. No.
E300™ Electronic Overload Relays with EtherNet/IP Communication Module	592/193-ESM*, 193-ECM*
E3 Plus™ Electronic Overload Relays	592/193-EC*
SMC™-50 Soft Starters	150-S*
ArmorStart® Distributed Motor Controllers with EtherNet/IP™ Communication	280E/281E/284E-*
ArmorStart LT Distributed Motor Controllers with EtherNet/IP Communication	290E/291E/294E-*
PowerFlex® Architecture-class AC Drives with EtherNet/IP Communication	PowerFlex 7 Class

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