

IPC Configuration for 3-Phase AC Application

Micropac’s AC Industrial Power Controllers (IPC01 series) are designed to protect and control single phase AC loads. The simple external circuit shown in Figure 1 allows three IPCs to completely protect and control a 3-phase load. By monitoring the status of each IPC, an overload on any phase can be used to command all IPC’s to the off-state. The output status is also reported externally for easy detection of a tripped device by a master controller to take any appropriate action such as attempting a restart, initiating a contingency plan (e.g., start a backup system, compensate with other on-line systems, initiate a controlled shutdown of an overall system, initiate an emergency response), or notification of maintenance personnel.

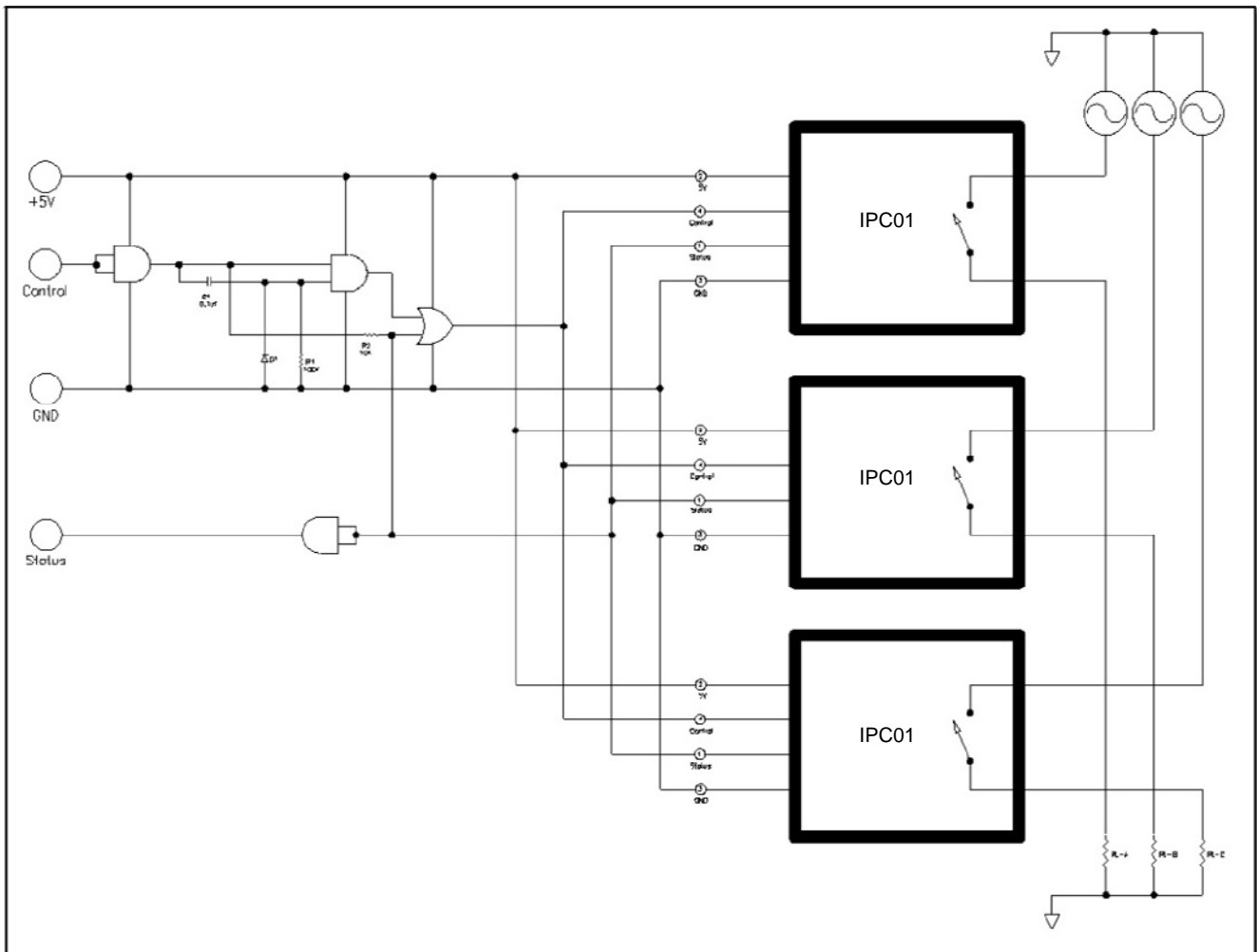






Figure 1 - Three-Phase Load Protection with Micropac IPCs

Designers should consider all aspects of the system for proper selection of the IPC. Special consideration should be given to maximum expected load voltages, currents, current rating of wiring and connectors. Of particular concern are fault conditions. Micropac IPC's react quickly to load faults which can cause voltage transients, especially when large currents and large inductance (consider wiring inductance) are involved, that can exceed the voltage rating of and result in damage to the IPC. Select an IPC with a voltage rating above any expected voltage. As a general practice, Micropac recommends snubbing and voltage transient protection as part of a well designed system (see AN-9002 for recommendations on snubbing and transient voltage protection). A well designed system provides protection for the power source, wiring, connectors, load and the IPC.

Table 1 - Micropac IPC Product Line

	Micropac Part Number	Description	Rating
	IPC01-75VDC10A-ST	75VDC applications; MIL-STD-704E and MIL-STD-1760E compliant I ² T and instant trip overload protection; Output enable; Output status; -40°C to +80°C	V _{l-o} 1,500VDC V _o 75VDC; I _o 10 A DC
	IPC01-400VDC5A-ST	400VDC applications; MIL-STD-704E and MIL-STD-1760E compliant I ² T and instant trip overload protection; Output enable; Output status; -40°C to +80°C	V _{l-o} 1,500VDC V _o 400VDC; I _o 5 A DC
	IPC01-40VAC10A-ST	40VAC applications; MIL-STD-704E and MIL-STD-1760E compliant I ² T and instant trip overload protection; Output enable; Output status; -40°C to +80°C	V _{l-o} 1,500VDC V _o 40V RMS; I _o 10 A AC
	IPC01-280VAC5A-ST	280VAC applications; MIL-STD-704E and MIL-STD-1760E compliant I ² T and instant trip overload protection; Output enable; Output status; -40°C to +80°C	V _{l-o} 1,500VDC V _o 280V RMS; I _o 5 A AC



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Micropac Industries Incorporated

905 E. Walnut St
Garland, TX 75040

(972)272-3571
www.micropac.com