System 350™ Y350R Power Module

The Y350R is a rectified Class 2, 24 VAC power supply module designed specifically for use with System 350™ Modular Control Systems.

As with all System 350 products, the Y350R is housed in a compact NEMA 1, high-impact plastic enclosure. The modular design provides easy, plug-in connections for quick installation and future expandability.

Figure 1: Y350R Power Module

Features and Benefits	
❑ **Modular Design**	Enables stage, display, and power modules to be purchased and installed as necessary
❑ **Plug-in Connectors and 35 mm DIN Rail Mounting**	Eliminates wiring between modules and reduces installation costs
❑ **Accepts Input Voltages of 120 or 240 VAC, 50/60 Hz**	Reduces inventory by encompassing the primary voltage requirements

Part No. 24-7664-214, Rev. D
Code No. LIT-930090

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*A*pplication

The Y350R Power Module provides the power necessary to operate all System 350 controls and add-on modules. For system capabilities, see Table 1.

Table 1: Maximum Number of Add-on Modules when Powered by a Y350R

| Control Module	Stage Module		Display Module
A350A A350B A350E	9	S350A's or S350C's	1 D350
	6	S350A's or S350C's with 1 S350P	
	4	S350A's or S350C's with 2 S350P's	
A350P	4	S350A's or S350C's	1 D350
	2	S350A's or S350C's with 1 S350P	
A350R A350S	9	S350A's or S350C's	2 D350
	6	S350A's or S350C's with 1 S350P	
	4	S350A's or S350C's with 2 S350P's	
W351A	5	S351's	1 D351
W351P	4	S351's	1 D351
P352A	5	S352's	1 D352
P352P	No additional stages available		1 D352
R353	5	S353's	No display available

All System 350 add-on modules snap on to a DIN rail and plug into the control and to each other via 5-pin connectors. Add-on modules can be arranged in any order and there is no wiring required to interconnect the System 350 components.

*O*peration

The Y350R operates from 240 VAC or 120 VAC power. A 24 VAC, Class 2, step-down transformer brings the voltage to a level which the System 350 modules will accept. There are no adjustments for the power module.

IMPORTANT: All Series Y350R Power Modules are designed for use only in conjunction with operating controls. Where an operating control failure would result in personal injury and/or loss of property, it is the responsibility of the installer to add devices (safety, limit controls) that protect against, or systems (alarm, supervisory systems) that warn of, control failure.

*D*imensions
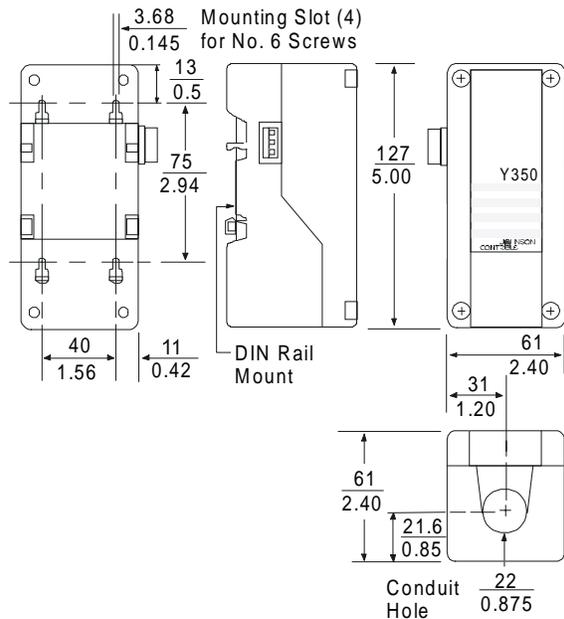
Figure 2: Y350R Dimensions, mm/in.

*I*nstallation and Wiring

The Y350R case has provisions for mounting to a standard 35 mm DIN rail, or can be mounted using the four key slot mounting holes located in the rear of the case.

Mount System 350 modules in any convenient location using either the DIN rail mounts or the mounting holes located on the back of the control case. The components are not position sensitive, but should be mounted so they can be easily wired and adjusted.

IMPORTANT:	All wiring must be installed to conform to the National Electrical Code and local regulations.

1. Secure the module to the DIN rail, wall, or panel.

⚠ WARNING: **Electrical Shock Hazard.**
Disconnect power supply before modules are interconnected and wiring connections are made to avoid possible electrical shock or damage to the equipment.

2. Connect input wiring to the Y350R power module. Strip approximately 3/8 inch from the wire insulation, insert the wire under each terminal screw, and tighten. (See Figure 3.)

Note: If conduit is used when installing System 350 components, be sure to connect the hub to the conduit before the hub is secured to the enclosure.
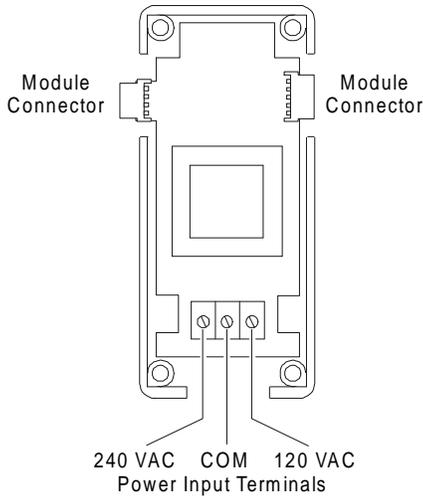
Figure 3: Interior of the Y350R Power Module

*O*rdering Information

Table 2: Product Available

Item	Product Code	Description
Power Module	Y350R-1C	Rectified, Class 2, 24 VAC Power Supply

*C*heckout Procedure

Before applying power, make sure installation and wiring connections are according to job specifications. After necessary adjustments and electrical connections have been made, put the system in operation and observe at least three complete operating cycles before leaving the installation.

*T*roubleshooting

If the control system does not function properly and the Y350R is suspect, proceed as follows:

1. Connect a Digital Voltmeter (DVM) between the 24V (+) and COM (-) terminals located on the control module's left-side connector. (Terminal designations are marked on the control module.)

2. Select DC volts on the DVM and verify that the voltage is between 16 and 38 VDC. If the DVM reading is within range, the Y350R is functioning properly.

Note: Consult the *Troubleshooting* section of the appropriate control bulletin for a complete system troubleshooting procedure.

3. If the DVM reading is not within the indicated voltage range, check wiring and correct if necessary. If the wiring is correct and the reading remains out of range, replace the Y350R.

*R*epairs and Replacement

Field repairs or calibration must not be made. Replacement modules are available through the nearest Johnson Controls representative. (See Table 2.)

Specifications

Product	Y350R Power Module
Input Voltage	120/240 VAC, 50/60 Hz
Output Voltage	Rectified 24 VAC, 10 VA, Class 2
Material	Case and cover: NEMA 1 high-impact plastic
Ambient Temperature	Operating: -34 to 66°C (-30 to 150°F) Shipping: -40 to 85°C (-40 to 185°F)
Ambient Humidity	0 to 95% RH non-condensing
Mounting	Wall or DIN rail
Agency Listing	UL Guide No. XAPX, File E27734 CUL Guide No. XAPX7, File E27734 CSA Class No. 4813 02, File LR948

The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the local Johnson Controls office. Johnson Controls, Inc. shall not be liable for damages resulting from misapplication or misuse of its products.

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Controls Group
507 E. Michigan Street
P.O. Box 423
Milwaukee, WI 53201

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