Series Y63, Y64, Y65, Y66, and Y69 Transformers

Product Bulletin

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The Series Y63, Y64, Y65, Y66, and Y69 Transformers provide 24 VAC power for loads of 40 VA through 300 VA. These transformers are designed for use on digital controllers, gas controls, ignition systems, motor actuators, staging controls, and most other 24 VAC Heating, Ventilation, Air Conditioning, and Refrigeration (HVACR) control systems.

The Y6x Series meets the requirements of UL 1585, UL 506, and CSA C22.2 No. 66, providing compliance in both the United States and Canada. The Y63, Y64, Y65, and Y66 transformers are listed as Class 2 transformers (UL 1585, CSA C22.2 No. 66). The Y69 is listed as a general purpose transformer (UL 506, CSA C22.2 No. 66).

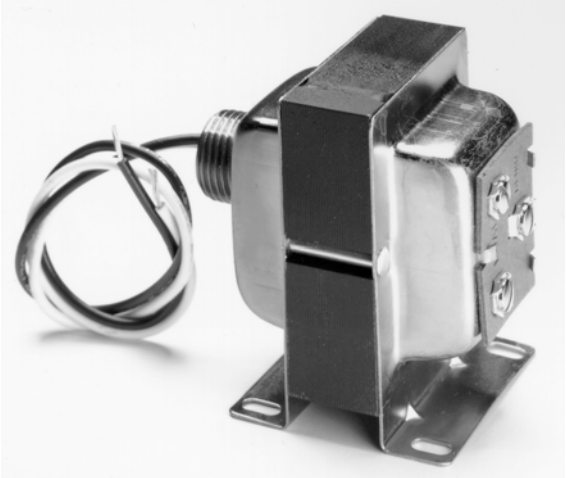


Figure 1: Model Y65T31-0 Transformer

Table 1: Features and Benefits

Features	Benefits
Split-Bobbin Design	Provides best primary/secondary isolation.
Multi-Tap Primaries	Reduce stocking requirements and offers application flexibility.
Choice of Foot, Plate, or Conduit Hub Mounting	Provides mounting flexibility.
Choice of Primary Voltages	Meets a wide range of power requirements from 24 VAC through 480 VAC.
Color-Coded Lead Wires	Provide simplicity and standardization.
cULus Listed or cURus Recognized	Meets US and Canadian requirements for Class 2 transformers (Y63, Y64, Y65, and Y66) and general purpose transformers (Y69).
Built-In, Easy-Reset Circuit Breakers	Eliminate replacement time and cost caused by burnout (Y63, Y64, Y66, and Y69).
Open Frame Y65 Models	Serve as ideal models when end bells are not required.

Selecting a Transformer

See Table 2 to select the appropriate transformer for your application.

Note: All conduit fittings are 1/2-14 National Pipe Straight Threads (NPSTs). Performance and dimension specifications are nominal and are subject to accepted manufacturing tolerances and applications.

IMPORTANT: The new line of transformers does not offer exact replacements for older styles. Some dimensions and voltages have changed. The VA rating for 100 VA transformers has changed to 92 VA to comply with UL 1585.

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Table 2: Transformer Selection Table

Code No.	Primary Voltage VAC	Secondary Voltage VAC	Primary Connection	Second Connection	Mounting	Agency Requirement
40 VA Capacity Transformers with Energy Limiting Type Overload Protection						
Y65G13-0 (Figure 2)	24	24	Male Fitting 8 in. primary leads	Male Fitting 30 in. secondary leads	Foot	cULus Class 2
Y65A13-0 (Figure 2)	120	24	Male Fitting 8 in. primary leads	Male Fitting 30 in. secondary leads	Foot	cULus Class 2
Y65A21-0 (Figure 3)	120	24	End Bell holes 8 in. primary leads	Three screw terminals (one is blind)	4 in. x 4 in. Plate	cULus Class 2
Y65T31-0 (Figure 4)	120/208/240	24	Male Fitting 8 in. primary leads	Three screw terminals (one is blind)	Foot 4 in. x 4 in. Plate[1]	cULus Class 2
Y65T42-0 (Figure 5)	120/208/240	24	Common Male Fitting 8 in. primary leads	Common Male Fitting 8 in. secondary leads	Hub 4 in. x 4 in. Plate[1]	cURus Class 2
Y65T54-0 (Figure 6)	120/208/240	24	8 in. primary leads	8 in. secondary leads	Foot-skeleton	cURus Class 2
Y65S13-0 (Figure 7)	208/240	24	Male Fitting 8 in. primary leads	Male Fittings 30 in. secondary leads	Foot	cULus Class 2
Y65F13-0 (Figure 7)	277/480	24	Male Fitting 8 in. primary leads	Male Fitting 30 in. secondary leads	Foot	cULus Class 2
Y65F42-0 (Figure 8)	277/480	24	Common Male Fitting 8 in. primary leads	Common Male Fitting 8 in. secondary leads	Hub 4 in. x 4 in. Plate[1]	cURus Class 2
50 VA Capacity Transformers with Circuit Breakers						
Y63T22-0 (Figure 9)	120/208/240	24	End bell Hole 8 in. primary leads	End bell Hole 8 in. secondary leads	4 in. x 4 in. Plate	cURus Class 2
Y63T31-0 (Figure 10)	120/208/240	24	Male Fitting 8 in. primary leads	Three screw terminals (one is blind)	Foot 4 in. x 4 in. Plate[1]	cULus Class 2
Y63F22-0 (Figure 11)	277/480	24	End bell Hole 8 in. primary leads	End bell Hole 8 in. secondary leads	4 in. x 4 in. Plate	cURus Class 2
75 VA Capacity Transformers with Circuit Breakers						
Y66T12-0 (Figure 12)	120/208/240	24	Common Male Fitting 8 in. primary leads	Common Male Fitting 8 in. secondary leads	Foot	cURus Class 2
Y66T13-0 (Figure 13)	120/208/240	24	Male Fitting 8 in. primary leads	Male Fitting 30 in. secondary leads	Foot	cULus Class 2
Y66F12-0 (Figure 14)	277/480	24	Common Male Fitting 8 in. primary leads	Common Male Fitting 8 in. secondary leads	Foot	cURus Class 2
Y66F13-0 (Figure 15)	277/480	24	Male Fitting 8 in. primary leads	Male Fitting 30 in. secondary leads	Foot	cULus Class 2
92 VA Capacity Transformers with Circuit Breakers						
Y64T15-0 (Figure 16)	120/208/240	24	Male Fitting 8 in. primary leads	Female Fitting 30 in. secondary leads	Foot	cULus Class 2
Y64T21-0 (Figure 17)	120/208/240	24	End bell holes 8 in. primary leads	Three screw terminals (one is blind)	Plate	cULus Class 2
Y64T22-0 (Figure 18)	120/208/240	24	End bell Hole 8 in. primary leads	End bell Hole 8 in. secondary leads	Plate	cURus Class 2
300 VA Capacity Transformers with Circuit Breakers						
Y69T15-0 (Figure 19)	120/208/240	24	Male Fitting 8 in. primary leads	Female Fitting 30 in. secondary leads	Foot	cULus Power Transformer

1. 4 in. x 4 in. plate and nut packed with transformer.

Dimensions

Note: The following dimensions are nominal and are subject to accepted manufacturing tolerances and application variables.

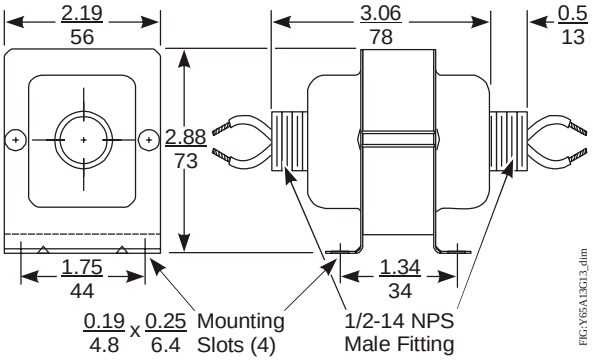


Figure 2: Dimensions for Y65A13 and Y65G13 Types, in./mm

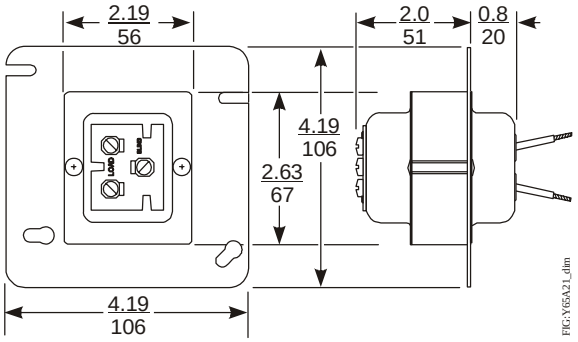


Figure 3: Dimensions for Y65A21 Type, in./mm

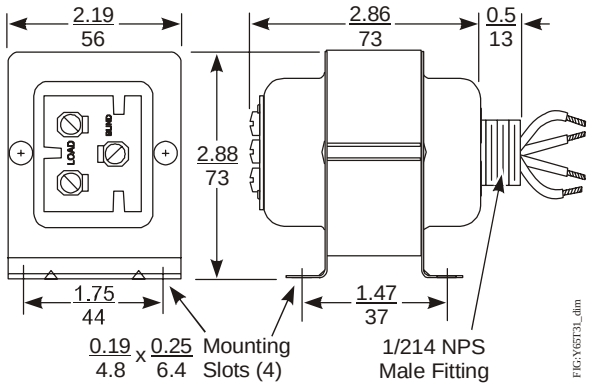


Figure 4: Dimensions for Y65T31 Type, in./mm

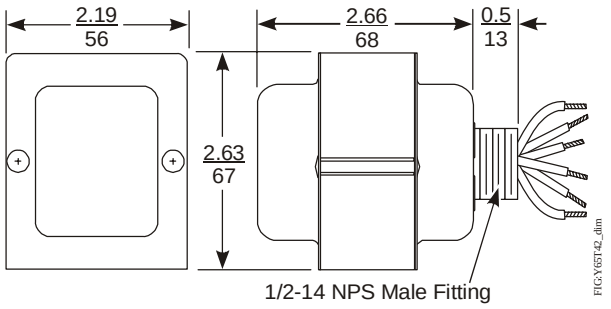


Figure 5: Dimensions for Y65T42 Type, in./mm

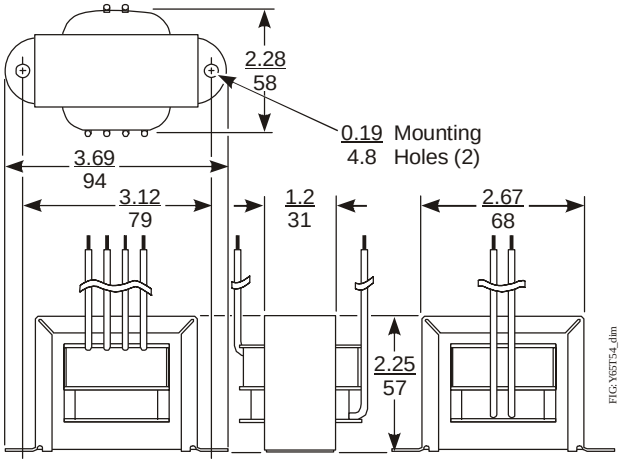


Figure 6: Dimensions for Y65T54 Type, in./mm

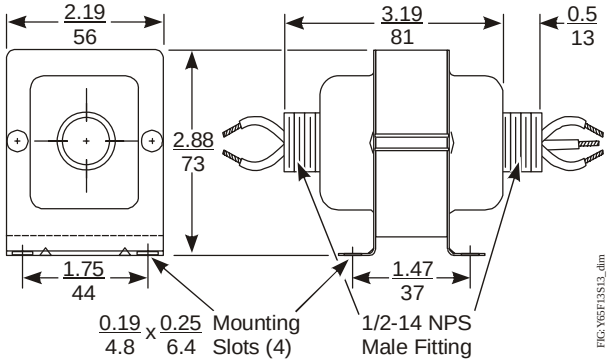


Figure 7: Dimensions for Y65F13 and Y65S13 Types, in./mm

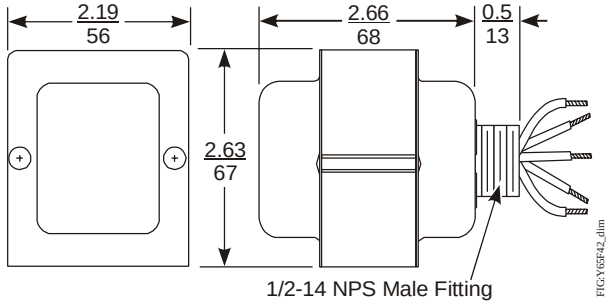


Figure 8: Dimensions for Y65F42 Type, in./mm

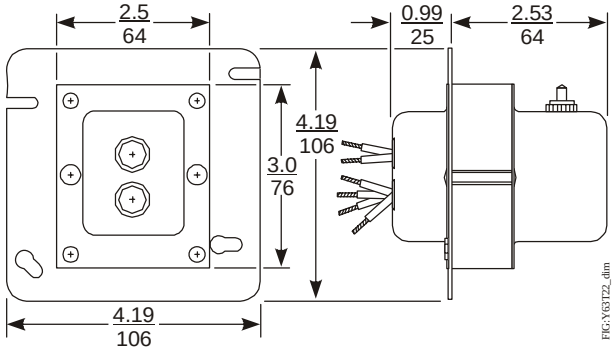


Figure 9: Dimensions for Y63T22 Type, in./mm

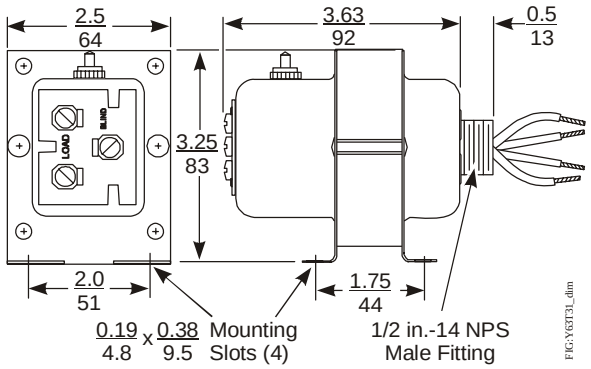


Figure 10: Dimensions for Y63T31 Type, in./mm

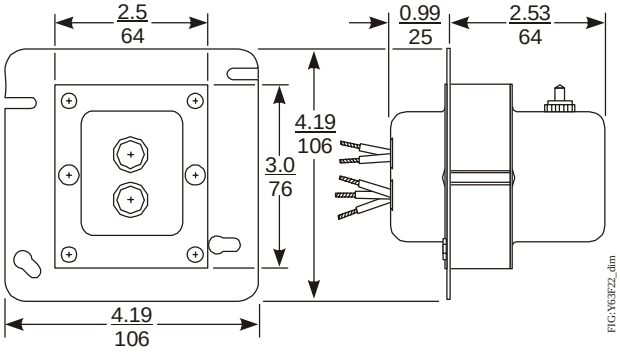


Figure 11: Dimensions for Y63F22 Type, in./mm

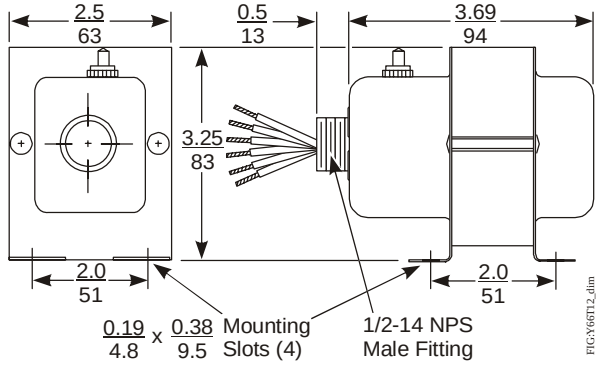


Figure 12: Dimensions for Y66T12 Type, in./mm

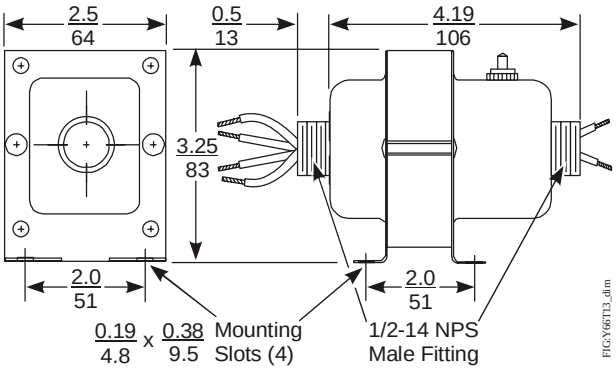


Figure 13: Dimensions for Y66T13 Type, in./mm

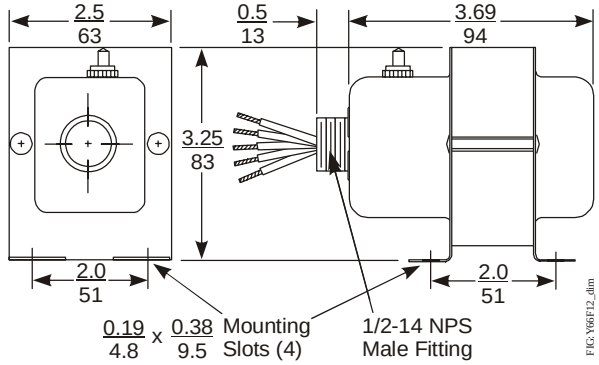


Figure 14: Dimensions for Y66F12 Type, in./mm

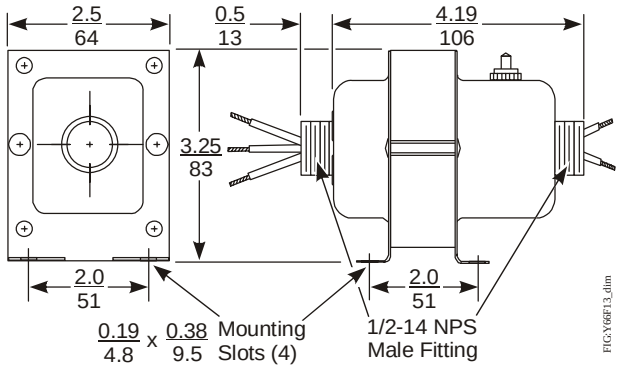


Figure 15: Dimensions for Y66F13 Type, in./mm

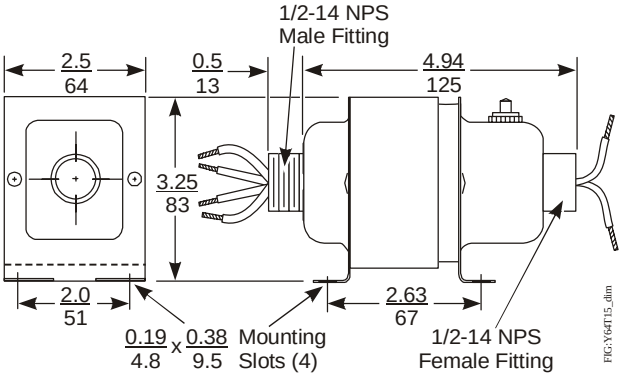


Figure 16: Dimensions for Y64T15 Type, in./mm

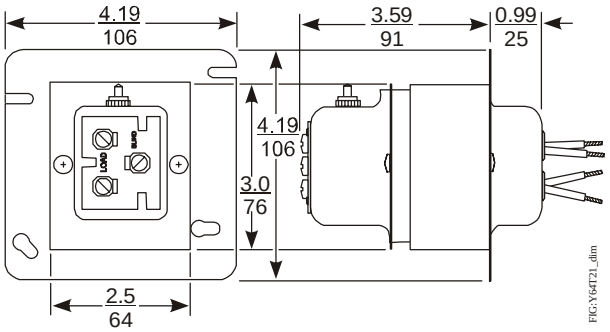


Figure 17: Dimensions for Y64T21 Type, in./mm

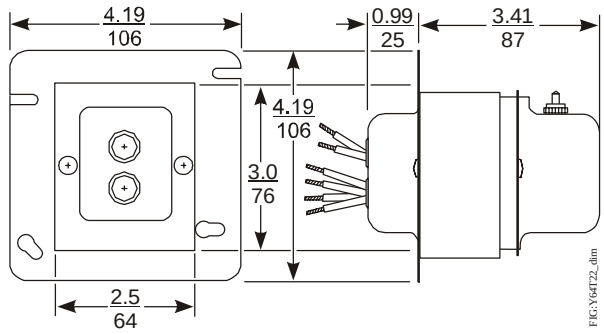


Figure 18: Dimensions for Y64T22 Type, in./mm

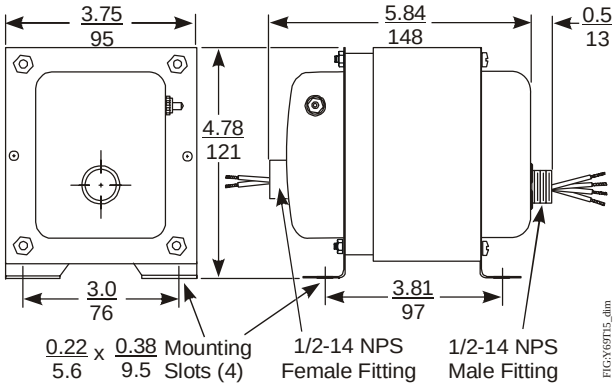


Figure 19: Dimensions for Y69T15 Type, in./mm

Repair Information

Do not make field repairs to the transformers. For a replacement transformer, contact the nearest Johnson Controls® distributor or sales representative.

Technical Specifications

Series Y63, Y64, Y65, Y66, and Y69 Transformers

Product	Series Y63, Y64, Y65, Y66, Y69 Transformers	
Input Power Requirements	24–480 VAC at 60 Hz	
Full Load Secondary Voltage	23.5 VAC (Nominal)	
Open Circuit Secondary Voltage (No Load)	27.0 VAC (Nominal)	
Full Load Secondary VA Rating	**Series** Y63 Y64 Y65 Y66 Y69	**Volt-Amperes** 50 VA 92 VA 40 VA 75 VA 300 VA
Finish	End bells, frame, feet, and mounting plates are corrosion resistant	
Ambient Operating Temperature	-40 to 104°F (-40 to 40°C)	
Ambient Storage Temperature	-40 to 140°F (-40 to 60°C)	
Shipping Weight	Y63 Y64 Y65 Y66 Y69	3.0 lb/1.4 kg 4.0 lb/1.8 kg 2.0 lb/0.9 kg 3.0 lb/1.4 kg 11.0 lb/5.0 kg
Agency Compliance	UL Listed Y63, Y64, Y65, Y66; File E95575, CCN's XOKV (US) and XOKV7 (Canada) UL Recognized Y63, Y64, Y65, Y66; File E95575, CCN's XOKV2 (US) and XOKV8 (Canada) UL Listed Y69; File E95138, CCN's XPTQ (US) and XPTQ7 (Canada) All transformers are Class 2 except the Y69 (300 VA), which is listed as a power transformer.	

The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the local Johnson Controls office or call 1-800-275-5676. Johnson Controls, Inc. shall not be liable for damages resulting from misapplication or misuse of its products.

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