



KOOLTRAY II SERIES FANTRAYS

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KOOLTRAY II OPERATOR'S MANUAL



CAUTION

**BEFORE INSTALLING AND
USING THIS KOOLTRAY, IT IS
IMPORTANT THAT THIS MANUAL
BE READ AND UNDERSTOOD
THOROUGHLY**



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I. Introduction

This Manual provides you with the necessary general information for properly installing and operating Kooltrays. Unit specific technical data and mounting instructions are presented later in the Manual.

II. Incoming Inspection

Kooltrays are designed, built, and packaged to withstand the shock and vibration associated with shipment by common carriers. Occasionally improper handling during shipping causes damage. Therefore, a thorough inspection should be performed upon receipt of all shipments. Any carton tears, dents, scratches, or loose articles should be noted on the Freight Bill. Cartons should be opened promptly and the units inspected for CONCEALED DAMAGE. An immediate claim MUST be filed with the freight carrier and an inspection requested. Retain all packing materials. Kooltronic cannot assume responsibility for Consignee's failure to file a timely freight claim.

III. Product Handling

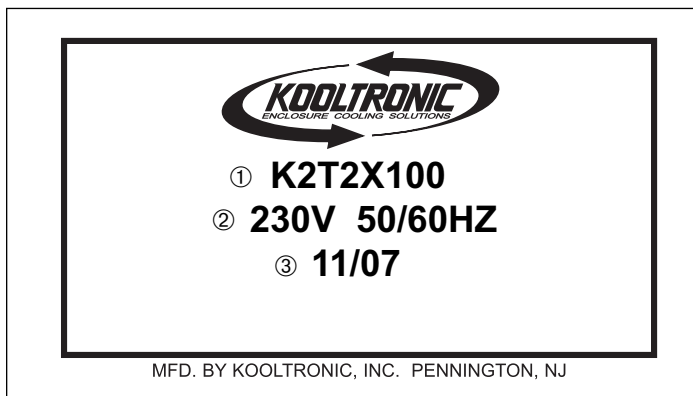
- Do not attempt to operate your Kooltray until you read and thoroughly understand this Manual.
- Before operating this unit, all electrical wiring must be checked to assure the proper connections.

CAUTION

Operate this unit only on the proper voltages and frequencies as noted on the nameplate.

IV. Product Identification Nameplate

Each Kooltray includes a nameplate. This nameplate provides:



- ① Model Number
- ② Electrical Power Characteristics
- ③ Date of Manufacture

We recommend you copy this information from your unit.

- ① When ordering parts, specify the Model Number.
- ② Before operating, be sure that the power source matches these requirements.

V. Installation Instructions

Kooltrays are designed to be rack mounted and are provided with the necessary means to be fastened to rails. Refer to page 5 for location of mounting holes.

VI. Description

Standard KoolTray II

The KOOLTRONIC **KoolTray II** delivers cooling air to hot spots by localizing fan placement to the heat generating area(s). With its 1¾-inch [44.5mm] single-U height it fits right under card racks or near heat-producing sources. Standard units are available in 1, 2, or 3 row models. 19-inch [482.6mm] unit width is standard.

Smart KoolTray II

In addition to specific cooling fan placement, the **Smart KoolTray II** provides two optional choices of component protection. The **X5** option sends both a visual and external alarm in the event of fan failure or low fan speed. The **X7** option varies the fan speed as temperature decreases or increases relative to the set point and sends an alarm for high temperature conditions. The **X6** option combines both the X5 and X7 options.

Filtered KoolTray II

For environments which require filtration of the ambient or cabinet air, KOOLTRONIC's **Filtered KoolTray II** filters the air from the bottom side of the tray. Other filter location options are available. Filtered versions are available on both the **Standard** and **Smart KoolTray II**.

Options for Smart Kooltray II

The **X5** option provides both a visual and external alarm for fan failure or low fan speed. The visual alarm is provided by L.E.D.s corresponding to individual fans. The external alarm is provided by relay contact connection on the rear mounted terminal block for a remote warning device.

For **X7** option provides variable speed fan control based on temperature. High temperature alarm relay contacts are provided by way of a rear mounted terminal block for a remote warning device.

The **X6** option incorporates both the X5 and X7 options.

OPTIONS:	<u>X5</u>	<u>X6</u>	<u>X7</u>
Individual Fan Sensors	x	x	
Variable Speed Fans		x	x
AC	x	x	x
DC	x	x	x

Alarm Types

Low Fan Speed/Fan Failure	x	x	
High Temperature		x	x

Isolated OR'd Alarm Outputs (Rear of Unit) - (X5 and X6 Options Only)

These optically isolated outputs provide both normally open (N.O.) and normally closed (N.C.) alarms permitting connection to logic circuits or other loads with no electrical connection to the control circuit.

The outputs are from a Dual-Pole MOS Relay, which are intended to drive heavy loads. These outputs have a maximum on-state resistance of 50 Ohms, maximum sinking current is 100 mA, and a maximum of 230 VAC can be applied to the alarm terminals. The outputs also trigger in the event of cooling system power failure.

Alarm Logic Table

Circuit	Above Trigger Speed	Below Trigger Speed	Power Removed
1. NC	Closed	Open	Open
2. NO	Open	Closed	Closed

Note: At power-up, all outputs are held in the the normal state for ten seconds.

KOOLTRAY II MODEL NUMBER AND FEATURE SELECTION GUIDE

KT

KT = 115 VAC, 50/60 Hz
 K2T = 230 VAC, 50/60 Hz
 K6T = 12 VDC Brushless
 K7T = 24 VDC Brushless
 K8 T = 48 VDC Brushless

1

1 = 3 fans (one row)
 2 = 6 fans (two rows)
 3 = 9 fans (three rows)

F

Filtered
 KoolTray

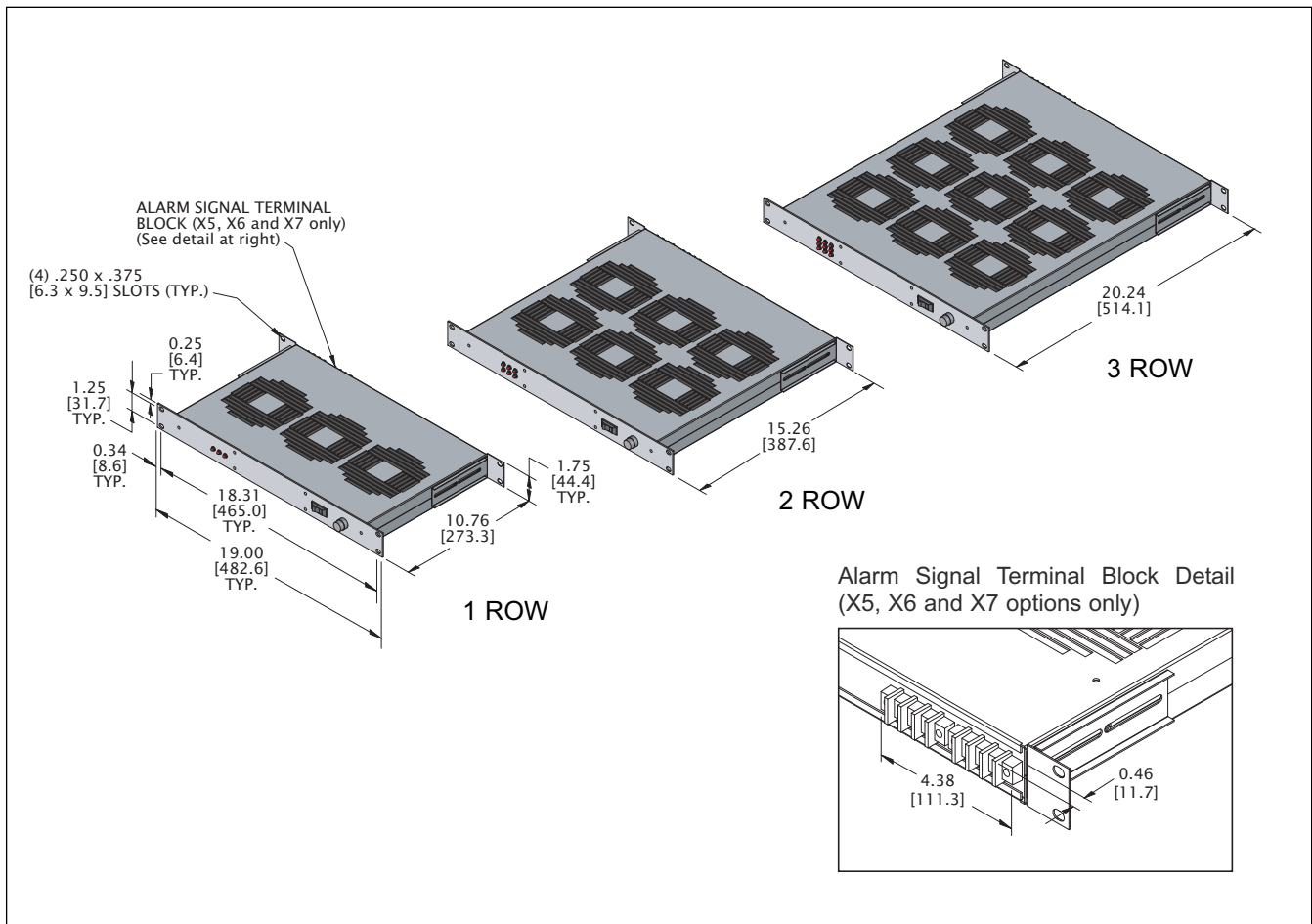
X1

X1 = Standard
 KoolTray
 X5 = Smart KoolTray
 with single speed
 fans
 X6 = Smart KoolTray
 with temperature
 sensitive variable
 speed fans
 X7 = Standard KoolTray
 with temperature
 sensitive variable
 speed fans

00

00 = With rear exit
 power cord
 01 = Externally rear-
 mounted terminal
 block for power
 instead of power
 cord
 02 = IEC 60320 C-14
 rear mounted
 power receptacle
 instead of power
 cord

VII. Drawings and Dimensions



VIII. Specific Model Data

Technical Data*

# Fans	CFM @ 0" S.P.	RPM Nominal	Amps		Watts	Approx. Weight	
			Run.	L.R.		Lbs.	Kg
3	315	3050	0.5	0.8	40	11	5
6	630	3050	1.0	1.6	80	15	7
9	945	3050	1.5	2.4	120	20	9

*115V, 60 Hz operation.

Major Component Replacements

Fan		Voltage				
		115VAC	230VAC	12VDC	24VDC	48VDC
Option	X1	0265-09	0265-10	0265-08	0265-15	0265-13
	X5	0265-12	0265-12	0265-08	0265-35	0265-12
	X6	0265-12	0265-12	0265-08	0265-35	0265-12
	X7	0265-12	0265-12	0265-08	0265-15	0265-13

	1 Row	2 Row	3 Row
Filter	4811F	10871F	12121F

IX. Maintenance

KoolTray II fantrays are designed to require only routine cleaning of optional air filters (if supplied) to assure unimpeded air flow. It is not possible to recommend specific filter cleaning intervals since the level and the nature of air borne particulate matter differs widely with each installation. It is generally sufficient to remove and wash the reusable aluminum mesh air filter when the outer surface of these filters appears covered with a thin layer of dust or lint. Filter recoating adhesive is recommended. Appropriate disposable filters are available from Kooltronic.

X. Packing Procedure For Warranty Repair

Pack the KoolTray in an appropriate carton (preferably the original carton), with adequate internal protective packaging, making sure carton is marked properly.

IX. Standard Warranty

KOOLTRONIC products are warranted to be free of defects in workmanship, materials and components. The following warranty periods apply from date of shipment:

- Air moving devices/components and hermetic system components: One year
- Non-operating parts, except filters: 5 years

The above warranty applies when the equipment is operated under the following conditions:

- Ambient temperature not in excess of 125°F (52°C) in normal atmosphere or as stated on product nameplate
- Voltage variation no greater than $\pm 10\%$ from nameplate rating
- Frequency variation no greater than $\pm 3\text{Hz}$ from nameplate rating
- Maximum cooling load no higher than air conditioner nameplate rating
- Waiting five minutes before restarting air conditioner after intentional or accidental shutoff
- Compliance to all other installation, maintenance and operating instructions, as supplied
- The purchaser assumes the responsibility of grounding the unit and installing it in accordance with local electrical and safety codes, as well as the National Electric Code (NEC) and OSHA

KOOLTRONIC cannot assume responsibility for mis-application of its products or the erroneous selection of an inappropriate product by a non-authorized KOOLTRONIC representative. Our applications engineers will gladly assist in the selection of the proper product, provided all required details of the application are furnished.

THIS WARRANTY CONSTITUTES THE ENTIRE WARRANTY WITH RESPECT TO THE PRODUCT AND IS IN LIEU OF ALL OTHERS, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY AND WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE AND IN NO EVENT IS KOOLTRONIC RESPONSIBLE FOR ANY CONSEQUENTIAL DAMAGES OF ANY NATURE WHATSOEVER.

RETURN AUTHORIZATION (RA) PROCEDURE

- All returns require a Return Authorization number whether the return is for warranty or non-warranty repair, rotation of stock, damage or any other reason. Returns without an RA number will be refused.
- Customer must call KOOLTRONIC After Sale Kare (ASK), Pennington, New Jersey (609 • 466 • 3400) to obtain an RA number, or email ask@kooltronic.com.
- The following information is required when an RA is requested:
 - Original customer Purchase Order number and date
 - Date product was received by customer
 - Number of parts to be returned
 - Product description, model and serial number
 - Reason for return
 - Action requested
 - Contact name, telephone, FAX numbers and e-mail address
- Pack unit in a suitable container for shipment, preferably the

KOOLTRONIC assumes no liability beyond the repair or replacement of its own product. This Warranty does not cover:

- Labor or reimbursement of labor for evaluation, removal, installation, repair, or cost of any warranted part, unless authorized in writing by KOOLTRONIC
- Use of equipment for other than its designed purpose or operating conditions
- Operation in harsh, oily, corrosive or other abnormal environmental conditions, without the proper filtration, sealing, protective coatings and/or weather protection
- Damage to hermetic system resulting from continuous operation with dirty or clogged air filters or improper or negligent maintenance
- Use of refrigerant other than designated
- Customer modification or abuse
- Shipping damage or other accident (Claims for shipping damage are the responsibility of the customer. Timely claims must be filed by the customer with the freight carrier)
- Cracked or broken hermetic tubing, brazed joints or other internal damage caused by shipping or mishandling
- Damage caused by shipping units attached to an enclosure
- Any and all conditions resulting from noncompliance with the preceding operating conditions
- Returned freight must be paid by customer
- **This standard warranty does not apply to custom products. Consult your KOOLTRONIC representative for limitations**

original packaging if available. All Heat Exchangers must be returned in an upright position properly secured to a pallet. **Improper packaging may void warranty claim.** If a Heat Exchanger is received laying down or shipped via UPS or similar small parcel service the warranty will be void.

- Mark carton prominently with KOOLTRONIC's Return Authorization Number.
- Enclose all pertinent documents.
- Freight charges on all products returned to KOOLTRONIC shall be paid by the customer. Unauthorized collect shipments will be refused.
- If a unit is repaired under Warranty, KOOLTRONIC will pay the freight charges both ways within the Continental USA at KOOLTRONIC's negotiated rates. Warranty repaired units will be returned to customer at KOOLTRONIC expense only within the Continental USA.
- All authorized returns are subject to a restocking fee.