



Carrier

A United Technologies Company

REPLACEMENT COMPONENTS DIVISION

SERVICE BULLETIN

SUBJECT: PIC II Controls Familiarization	NUMBER: C9831 DATE: 12-10-98 SUPERSEDES:
MODELS AFFECTED: 19XR/XRT Series Chillers	DATE: PAGE: 1 OF: 4
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PURPOSE:

To inform the field of a new Product Integrated Control system (PIC) for the 19XR/XRT product line.

INFORMATION:

A new control system called PIC II (Product Integrated Control II) has been designed for the 19XR/XRT product line. As of production week 28 (July 6, 1998) all 19XR chillers with compressor frame sizes 2 through 5 and 19XRT chillers with compressor frame size 3 have PIC II controls installed. The PIC II controls are a major design upgrade to the existing PIC I (Product Integrated Control I) controls that have existed on the 19XR/XRT product line.

FAMILIARIZATION:

The following Comparison Table is arranged to summarize the comparison between the new PIC II control and the older PIC I control. The table on the left lists all the components in PIC I control and the table on the right lists all the components that replace the existing control with the new PIC II components. A comparison will be provided for the following portions of the control system: Control Panel, Power Panel, Motor Starter, Machine Sensors/Actuators, and Machine Safeties. Further details on the new control are provided in the Start-up, Operation and Maintenance catalog.

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LITERATURE and TRAINING MATERIAL:

The following is a list of literature and training material available for PIC II controls and can be ordered through Literature Distribution:

Title	Form Number	Catalog Number
19XR Installation Instructions	19XR-3SI	531-973
19XR Start-up, Operation and Maintenance Instructions	19XR-3SS	531-974
19XRT Installation Instructions	19XRT-2SI	531-976
19XRT Start-up, Operation and Maintenance Instructions	19XRT-2SS	531-977

Prepared by the Carrier Training Center:

Program (Video/Slides/Book)	19XR/XRT-03	021-907
Book	19XR/XRT-04	021-908
CD-ROM Multimedia Trainer with audio and book	19XR/XRT-04CD	021-909

COMPARISON TABLE

PIC I vs PIC II

(19XR/XRT chiller with Cutler-Hammer unit mounted starter)

PIC I CONTROL PANEL	PIC II CONTROL PANEL
<ul style="list-style-type: none"> • LID2B (Local Interface Device) • PSIOII-02 (Processor Sensor Input/Output Module) • 6 Pack Relay Board • Power Supply/ Comparator Board • 8 Input Options Module (1 & 2) 	<ul style="list-style-type: none"> • CVC (Chiller Visual Controller) • CCM (Chiller Control Module)

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COMPARISON TABLE (cont)

PIC I vs PIC II

(19XR/XRT chiller with Cutler-Hammer unit mounted starter)

PIC I POWER PANEL	PIC II POWER PANEL
<ul style="list-style-type: none"> • (3) 24 VAC control transformers • (1) 21 VAC control transformer • Oil differential pressure switch • 1C oil heater contactor • 2C oil pump contactor • 3C HGBP relay (optional) • 115/230 VAC selector switch 	<ul style="list-style-type: none"> • (2) 24 VAC control transformers • 1C oil heater contactor • 2C oil pump contactor • 3C HGBP relay (optional)
PIC I MOTOR STARTER	PIC II MOTOR STARTER
<ul style="list-style-type: none"> • SMM (Starter Management Module) • IQ1000II Motor Protection System • IQDP4130 Digital Volt Meter (Optional) • (5) pilot relays • T2 24 VAC transformer • T3 24 VAC transformer 	<ul style="list-style-type: none"> • ISM (Integrated Starter Module)
PIC I MACHINE SENSORS/ACTUATORS	PIC II MACHINE SENSORS/ACTUATORS
<ul style="list-style-type: none"> • (8) 5 kΩ thermistors • (4) 5 VDC pressure transducers (refrigerant side) • Inlet guide vane motor with 4-20 mA drive • Diffuser actuator motor with 4-20 mA drive 	<ul style="list-style-type: none"> • (8) 5 kΩ thermistors • (4) 5 VDC pressure transducers (refrigerant side) (5) for frame 5 compressor) • (4) 5 VDC pressure transducers (waterside) • Inlet guide vane motor with floating point drive and 0-3 VDC feedback • Diffuser actuator motor with 4-20 mA drive



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PIC I MACHINE SAFETIES	PIC II MACHINE SAFETIES
<ul style="list-style-type: none"> • High discharge pressure cutout switch (pressure limiting device) • (2) Waterside differential pressure switches (flow switch) 	<ul style="list-style-type: none"> • High discharge pressure cutout switch (pressure limiting device) • No waterside differential pressure switches are required. Water flow is sensed by pressure transducers (waterside flow devices) for flow/no flow confirmation. • HPR (High Pressure Relay) (contacts in series with 1CR). Located in pressure limiting circuit driven off 2C auxiliary contact on the compressor oil pump contactor.