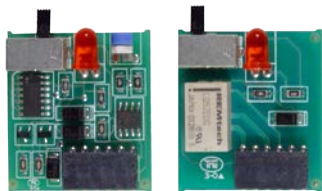# Interfaces and Converters

HPO-670x Series
Output Override Boards

For enhanced output options and for devices that cannot be conveniently powered directly from a standard controller universal output, install a relevant HPO-670x series output override board (in supporting controller models only). Each (except HPO-670x-1) has an accessible three-position slide switch for selecting the **"Hand-Off-Auto"** functions. In the "Hand" position, the output is manually energized, and the controller is provided with a feedback signal to indicate the output has been overridden. In the "Off" position, the output is manually de-energized, and the controller is provided with a feedback signal to indicate the output has been overridden. In the "Auto" position, the output is under the command of the controller. Each output board also has an LED to indicate when the output is turned On either manually or automatically.

SEE ALSO: **HPO-670x series** web pages for details.

Models

Triac (AC)*

HPO-6701	Triac, zero-cross switching, optical isolation

Analog (DC Voltage or Current) Outputs

HPO-6702	0–10 VDC analog, with adjustable override pot.
HPO-6704	4–20 mA, with adjustable override pot.

Relays (AC or DC)*

HPO-6703*	Normally open relay
HPO-6705	Normally closed relay

*NOTE: HPO-6703**-1** is always in auto mode and **without** the manual HAO slide switch. The HPO-6703 has the switch.

NOTE   The **HPO-6802 raised cover** with labels is required to secure override boards in **"metal-case"** controllers (BAC/KMD-5831, BAC-A1616BC, CAN-A16BEIO, KMD-5205, KMD-5221, and KMD-5270). The cover is not applicable to current model controllers with raised plastic cases (e.g., BAC/KMD-5801/5802).

HPO-9003

NFC Bluetooth/USB Module (Fob)

The HPO-9003 is designed for use with KMC Connect Lite. KMC Connect Lite saves time and money by providing fast in-the-office or in-the-field configuration of unopened and unpowered KMC Conquest BAC-5900 Series, BAC-9000 Series, and BAC-9300 Series controllers using NFC (Near Field Communication) technology.

KMC Connect Lite **Mobile** is designed for use with Android and Apple devices and is available for download from the App Store and Google Play. The HPO-9003 NFC-Bluetooth fob is required when using KMC Connect Lite Mobile with a Bluetooth-enabled Android device that does not have NFC and with a Bluetooth-enabled Apple device.

KMC Connect Lite **Desktop** is designed for Windows computers and laptops and is available for download from the KMC Partner Portal. The HPO-9003 and a USB cable are required when using KMC Connect Lite Desktop on a computer.

Main Features

Physical Characteristics

• Dimensions	2.7 x 1.7 x 0.7 in. (6.8 x 4.2 x 1.8 cm)
• Weight	1.06 oz (30 g)

Electrical Characteristics

• Battery type	Internal rechargeable lithium-polymer
• Expected battery life	Approximately 10,000 reads
• Charge time	Approx. 2.5 hours via standard USB port with supplied cable

Environmental Limits

• Operating	14 to 158° F (–10 to 70° C)

Scanning Characteristics

• Frequency	13.56 MHz
• NFC read range	Up to 1.5 inches (4 cm)

NOTE: To meet FCC regulations, NFC should only be used when the controller is unpowered.

HTO-1103/1104

Firmware Upgrade Kits (and CO$_2$ Gas Tubing Adapter)

These kits enable upgrading firmware in KMDigital and BACnet controllers, the BAC-5050 router, and the KMD-5540 series CommTalk protocol interfaces. The kits include the relevant programming pod and cables. Both kits also have adapter plates for the three types of FlexStat backplates as well as adapter CO$_2$ gas tubing for calibrating BAC-14xxxx models. The HTO-1104 is for all models, and the HTO-1103 is for FlexStat models only.

The latest firmware is available from the product pages or download section of KMC Control's Partner web site.

Models

		HTO-1104	HTO-1103
Models		BAC-5050 Router BAC-58xx Controllers BAC-7xxx Controllers FlexStats (all models) KMD-5205 LANLite KMD-5210 LAN Controller KMD-5270 WebLite KMD-5540 Series CommTalk KMD-58xx Controllers KMD-7xxx Controllers	All FlexStat (only) models
Cross-Reference		*Replaces the discontinued HTO-1101/1102 and KMD-5698 with USB interface—the parallel interface of the KMD-5696 is no longer supported*	*Replaces the discontinued KMD-5699*

KMD-5540 Series

CommTalk Protocol Interfaces

(*KMDigital Only*)

The KMC CommTalk Protocol Interface provides a standard equipment interface between KMC networks and third-party equipment interfaces. Depending on the model, some CommTalk Protocol devices respond to the third-party device as if it were communicating with a KMD-7000 series direct digital controller. Others perform as a data translator between the third-party interface and a KMD-5210 LAN Controller. The KMD-5540 features output configurations to meet popular standard equipment interfaces and simple installation and setup.

Models

KMD-5540-003	York Talk XL interface
KMD-5540-004	McQuay MicroTech OPM (Open Protocol Master) interface
KMD-5540-005	ModBus interface

SEE ALSO: **KMD-5540 series** web pages for more details.

Main Features

Supply Voltage	24 VAC (–15/+20%) Class 2
Input Power	10 VA Maximum
Baud Rate	9,600 to 38,400
Communications	(2) EIA-485 and (2) EIA-232 with removable terminal blocks for 14–22 AWG
Auxiliary Communications	
	(2) EIA-485 with modular connectors for PC connection or for KMD-1001 NetView
Communications Wiring	
	Belden 82760 or equivalent, 18 AWG twisted, shielded, 5.5 ohms/1000 ft., and ≤ 51 pf/ft. EIA-485: Maximum 4000 ft. without repeater EIA-232: Maximum 50 ft. without repeater

Accessories

HPO-0054	Replacement fuse bulb
HPO-0063	Replacement jumper
KMD-5614	Replacement 7-foot long, **4**-conductor, modular plug both ends
KMD-5615	Replacement 7-foot long, **6**-conductor, modular plug both ends
KMD-5625-**1***	Replacement female modular jack to 25-pin male serial D-sub connector
KMD-5628-**1***	Replacement female modular jack to 9-pin female serial D-sub connector, six-conductor

*NOTE: The KMD-5625-**1** and the older KMD-5625 look similar, but they are wired differently and are not interchangeable. The KMD-5628-**1** and the older KMD-5628 also look similar, but they are wired differently and are not interchangeable. The KMD-5540 series interfaces use the KMD-5625-**1** and the KMD-5628-**1**.

KMD-5550/5556 Modem Interfaces Cross-References   (*KMDigital Only*)

These were for direct replacements in existing installations using operating systems through Windows 98. **For newer installations, use a KMD-5559 series CommTalk.**

SEE ALSO: The KMDigital 5xxx Series Controller Replacement Cross-Reference section in the KMDigital Catalog Supplement (SP-093) for replacements of the KMD-5501/5502/5504/5505.

Accessories	
KMD-5614	Replacement 7-foot long, 4-conductor, modular plug both ends (for controller connection)
KMD-5615	Replacement 7-foot long, 6-conductor, modular plug both ends (for modem connection)

KMD-5557 Computer Interface (EIA-485 to EIA-232 Converter) Cross-Reference   (*KMDigital Only*)

The KMD-5557 Computer Interface provided the communication link between KMD-5500/5800/6000/7000 series controllers or subnetworks and an IBM™ compatible personal computer (that did not have a USB port). This product was not certified to operate with Windows 2000, XP, or Vista. **For Windows 2000 and later, use the KMD-5576 USB to EIA-485 Communicator.**

Accessories	
KMD-5614	Replacement 7-foot long, 4-conductor, modular plug both ends (for controller connection)
KMD-5615	Replacement 7-foot long, 6-conductor, modular plug both ends (for computer connection)
KMD-5628*	Replacement female modular jack to 9-pin female serial D-sub connector adapter

*NOTE: The KMD-5628**-1** and the older KMD-5628 look similar, but they are wired differently and are not interchangeable. The KMD-5557 uses the **KMD-5628**.

KMD-5559 Series   (*KMDigital Only*)
CommTalk Communications Interfaces

The KMD-5559 CommTalk is a microprocessor-based, programmable, communications interface module. The CommTalk manages all communications between the KMC Digital Tier 2 network and an external reporting service such as a modem-to-modem/PC, modem-to-pager service, or a PC.

The CommTalk can be programmed to initiate a modem-to-modem/PC connection. The CommTalk will send any alarms and manage any request from a PC before terminating the modem-to-modem/PC connection.

The CommTalk may also be programmed to initate a modem-to-pager service connection. The CommTalk will deliver the appropriate access codes to the pager service and send a text or numeric message as programmed. The pager number, access codes, and messages are programmed in the KMC Digital controllers.

Models	
KMD-5559	19.2K Baud Modem/PC, supplied with the HPO-0068 transformer
KMD-5559-2	9.6K Baud Modem/PC, supplied with HPO-0068

SEE ALSO: **KMD-5559 series** web pages for more details.

Main Features	

Installation
- Supply Voltage   9 to 24 volts AC or DC supplied by the HPO-0068 (requires 2.1 x 5.5 mm barrel plug)
- Dimensions   5.38 x 3.38 x 1.32 inches (137 x 86 x 34 mm)
- Weight   8.7 oz (247 grams)

KMD-5559 Baud Rates
- CommTalk to Controller   Auto (9600 to 38400)
- CommTalk to PC or modem 19.2K (fixed)

KMD-5559-2 and KMD-5559-2E Baud Rates
- CommTalk to Controller   Auto (9600 to 38400)
- CommTalk to PC or modem 9.6K (fixed)

Regulatory   UL 916 Energy Management Equipment listed CE compliant

Accessories	
KMD-5628**-1***	Replacement female modular jack to 9-pin female D-sub connector PC adapter
KMD-5625**-1***	Replacement female modular jack to 25-pin male D-sub connector modem adapter
KMD-5614	Replacement four-wire flat cable with male modular connectors for CommTalk to KMD digital controller
KMD-5615	Replacement six-wire flat cable with male modular connectors for CommTalk to modem
HPO-0068	Replacement required power supply
KMD-5569	56K baud external modem

*NOTE: The KMD-5625**-1** and the older KMD-5625 look similar but are not interchangeable. The KMD-5628**-1** and the older KMD-5628 also look similar are not interchangeable. The KMD-5540 series interfaces use the KMD-5625**-1** and the KMD-5628**-1**.

KMD-5569

56K Faxmodem

Main Features

Modem standards and protocols supported:
- V.92 56 kbps ITU standard
- V.90 56 kbps ITU standard
- V.34 33.6 kbps ITU standard

Compatible with ITU and Bell standards from:
- 56 kbps to 1200 bps
- V.42/MNP 2-4 error control, V.42 bis/MNP 5 data compression
- Fax: Class 1 and 2.0 Group III 14.4 Kbps send and receive

Requirements:
- Computer with Windows 2000 or XP for operations with BACstage or WinControl
- Dedicated 56K compatible local analog telephone line
- Serial cable (not included)

The KMD-5569 is a modem approved for dial-up applications with the following KMC Controls products:
- BAC-A1616BC Building Controller
- BAC-5000 BACstage
- BAC-5050 FullBAC Router
- KMD-5205 LANLite
- KMD-5210 (all models) LAN Controller
- KMD-5270 (all models) WebLite
- KMD-5559/5559-2 CommTalk
- KMD-5791/5792 WinControl XL (Plus)

Capable of receiving at up to 56 kbps and sending at up to 48 kbps (or 31.2 kbps with V.90 server). (Due to FCC regulations, receiving speeds are limited to 53 kbps; actual speeds may vary.)

SEE ALSO: **KMD-5569 series** web pages for more details.

Accessories

KMD-5674	Modem cable for KMD-5205 series and KMD-5270 series (but **NOT** with KMD-5210, BAC-5050, or BAC-A1616BC)
KMD-5625-1*	Modular connector to 25-pin D-sub serial adapter for KMD-5559 ComTalk (included with CommTalk)
KMD-5615	**Six**-wire flat cable with male modular connectors for KMD-5559 CommTalk to modem (included with CommTalk)

*NOTE: The KMD-5625-**1** and the older KMD-5625 look similar but are not interchangeable.

KMD-5576

USB to EIA-485 Communicator

Main Features

Operating System	Windows 2000, XP, Vista, and Windows 7 (32 and 64 bit)—not compatible with earlier Windows versions that do not support USB
Power	No external power source is required; it draws power from the USB port and Tier 2 device
USB Compliance	USB 2.0
Optical Isolation	Up to 2.5 kilovolts between the ports
Indicators	Green, USB transmit and receive LEDs

The ("hockey puck") KMD-5576 is a USB (Universal Serial Bus) to EIA-485 (formerly RS-485) converter. It connects a computer USB port to a BACnet or KMDigital network by plugging into a KMC Tier 2 (only) controller or a NetSensor/FlexStat/STE-5x24/STE-6000 series data port. It provides network access to a computer running BACstage or WinControl (but not TotalControl).

SEE ALSO: **KMD-5576** web pages for more details.

Accessories

KMD-5614	Replacement cable, USB Communicator to controller port, 7-foot long, 4-conductor, modular plug both ends
KMD-5624	Replacement cable, USB Communicator to NetSensor, FlexStat, or STE-6000 data port