



1. Introduction

The **KT-MOD-INP16** is an input module that adds up to 16 zones to the **KT-400** controller. The module supports daisy chaining; you can interconnect up to 15 **KT-MOD-INP16** modules for a total of 240 external inputs per **KT-400**. Adding the 16 onboard inputs of the **KT-400** gives a total of 256 inputs per **KT-400**. Combining input and output expansion modules gives the flexibility to connect up to 256 inputs and 256 outputs.

Note 1: The **KT-400** SPI port maximum current draw, when the 12V AUX terminals are not used, is 500 mA.

Note 2: External power supply (12 VDC, 2 Amps) is required when the total current draw exceeds 500mA on the SPI Port.

2. Specifications

- Maximum Current Draw: up to 40 mA per module
- Supports single end-of-line (5.6 KΩ) resistor, double end-of-line resistor and no end-of-line (DRY) zone loops
- Supports Normally Closed (NC) and Normally Open (NO) contacts
- The C (Common) terminal is GND
- Input change with a debouncing of 500 ms (Slow) or 150 ms (Fast)
- Report conditions per input: **SECURE** or **ALARM** in single end-of-line and no end-of-line zone loops, and 2 additional conditions **TAMPER** and **TROUBLE** in double end-of-line zone loops
- Can be used for contact or elevator input
- Cannot be connected to output modules **KT-MOD-REL8** and **KT-MOD-OUT16** through **SPI OUT**, only through its **SPI EXP** expansion port
- Operating Temperature: -10C to +55C, 0C to 49C for UL Listed product
- Maximum Humidity: 93% (non condensing), 0 to 85% (non condensing) for UL Listed product
- IP Class 3X, IK Rating 04 (when mounted in a Kantech cabinet). IP and IK rating not evaluated by Underwriters Laboratories.

3. Installing the **KT-MOD-INP16** Module

3.1. Unpacking

The **KT-MOD-INP16** package includes the following parts:

- One (1) **KT-MOD-INP16** module, 14 cm x 8 cm (5.7 in x 3.25 in)
- One (1) SPI cable with 1 SPI connector, 41 cm (16 in)
- 16x 5.6K Ohms ½ Watt Resistor
- Four (4) plastic standoffs
- Two (2) installation sheets, English and French

3.2. Mounting

The **KT-MOD-INP16** can be installed inside a compatible cabinet (**KT-MOD-CAB** or **KT-400**) or mounted in a dry and secure location at less than 1 m (3 ft) from the **KT-400**.

1. Press the four (4) plastic standoffs through the mounting holes of the cabinet,
2. Secure the cabinet to the wall in the desired location. Use appropriate wall anchors when securing the cabinet to drywall, plaster, concrete, brick or other surfaces.
3. Press the module into the plastic standoffs to secure the module to the cabinet.

3.3. SPI Wiring

Perform the following steps to complete wiring:

Note 1: Before beginning to wire the unit, ensure that all power (AC transformer and battery) is disconnected from the **KT-400**.

Note 2: If you are combining input and output modules through the **SPI EXP** expansion port of the **KT-MOD-INP16**, the input module must be the 1st module connected to the **KT-400** SPI Port.

1. Connect the 6-pin SPI connector to the **KT-400** SPI port or to the **SPI OUT** of the previous **KT-MOD-INP16** module.
2. Connect the six SPI wires (blue (BLU), white (WHT), green (GRN), yellow (YEL), black (BLK) and red (RED)) to the **SPI IN (TB1)** terminals.
3. You can use the **SPI EXP** of the 1st **KT-MOD-INP16** to start a group of output modules (**KT-MOD-REL8** and **KT-MOD-OUT16** only).
4. Connect the 6-pin SPI connector from the **SPI OUT** to the next **KT-MOD-INP16** module.
5. Complete all zone wiring to the zone input terminals (Z1-Z16).

Terminal Connections

Module no.: _____

Date of installation: _____

KT-400 Name: _____

KT-400 SITE NAME: _____

KT-400 Serial Number: _____

AUX: _____

SPI BUS (FROM): _____

SPI BUS (TO): _____

Z1: _____ Z9: _____

Z2: _____ Z10: _____

Z3: _____ Z11: _____

Z4: _____ Z12: _____

Z5: _____ Z13: _____

Z6: _____ Z14: _____

Z7: _____ Z15: _____

Z8: _____ Z16: _____

FCC COMPLIANCE STATEMENT

CAUTION: Changes or modifications not expressly approved by Kantech could void your authority to use this equipment.

This equipment generates and uses radio frequency energy and if not installed and used properly, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for Class B device in accordance with the specifications in Subpart "B" of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in any residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to television or radio reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient the receiving antenna
- Relocate the alarm control with respect to the receiver
- Move the alarm control away from the receiver
- Connect the alarm control into a different outlet so that alarm control and receiver are on different circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the FCC helpful: "How to Identify and Resolve Radio/Television Interference Problems". This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402, Stock # 004-000-00345-4.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation.

This class B digital apparatus complies with Canadian ICES-003.

The KT-MOD-INP16 is also compliant with EN55022: Class B.

UL 294 Performance Levels

Destructive Attack: I Line Security: I

Endurance: IV Standby Power: I*

*Standby Power Level IV when powered by KT-400.



TYCO INTERNATIONAL LTD
END-USER LICENSE AGREEMENT

FOR KANTECH Software Provided with or without products or components

IMPORTANT - READ CAREFULLY

KANTECH Software purchased with or without Products and Components is copyrighted and is purchased under the following license terms:

- This End-User License Agreement ("EULA") is a legal agreement between You (the company, individual or entity who acquired the Software and any related Hardware) and KANTECH, the manufacturer of the integrated security systems and the developer of the software and any related products or components ("HARDWARE") which You acquired.
- If the KANTECH software product ("SOFTWARE PRODUCT" or "SOFTWARE") is intended to be accompanied by HARDWARE, and is NOT accompanied by new HARDWARE, You may not use, copy or install the SOFTWARE PRODUCT. The SOFTWARE PRODUCT includes computer software, and may include associated media, printed materials, and "online" or electronic documentation.
- Any software provided along with the SOFTWARE PRODUCT that is associated with a separate end-user license agreement is licensed to You under the terms of that license agreement.
- By installing, copying, downloading, storing, accessing or otherwise using the SOFTWARE PRODUCT, You agree unconditionally to be bound by the terms of this EULA, even if this EULA is deemed to be a modification of any previous arrangement or contract. If You do not agree to the terms of this EULA, KANTECH is unwilling to license the SOFTWARE PRODUCT to You, and You have no right to use it.

SOFTWARE PRODUCT LICENSE

a The SOFTWARE PRODUCT is protected by copyright laws and international copyright treaties, as well as other intellectual property laws and treaties. The SOFTWARE PRODUCT is licensed, not sold.

1 GRANT OF LICENSE - This EULA grants You the following rights:

- a Software Installation and Use - For each license You acquire, You may have only one copy of the SOFTWARE PRODUCT installed.
- b Storage/Network Use - The SOFTWARE PRODUCT may not be installed, accessed, displayed, run, shared or used concurrently on or from different computers, including a workstation, terminal or other digital electronic device ("Device"). In other words, if You have several workstations, You will have to acquire a license for each workstation where the SOFTWARE will be used.
- c Backup Copy - You may make back-up copies of the SOFTWARE PRODUCT, but You may only have one copy per license installed at any given time. You may use the back-up copy solely for archival purposes. Except as expressly provided in this EULA, You may not otherwise make copies of the SOFTWARE PRODUCT, including the printed materials accompanying the SOFTWARE.

2 DESCRIPTION OF OTHER RIGHTS AND LIMITATIONS

- a Limitations on Reverse Engineering, Decompilation and Disassembly - You may not reverse engineer, decompile, or disassemble the SOFTWARE PRODUCT, except and only to the extent that such activity is expressly permitted by applicable law notwithstanding this limitation. You may not make any changes or modifications to the Software, without the written permission of an officer of KANTECH. You may not remove any proprietary notices, marks or labels from the Software Product. You shall institute reasonable measures to ensure compliance with the terms and conditions of this EULA.
- b Separation of Components - The SOFTWARE PRODUCT is licensed as a single product. Its component parts may not be separated for use on more than one HARDWARE unit.
- c Single INTEGRATED PRODUCT - If You acquired this SOFTWARE with HARDWARE, then the SOFTWARE PRODUCT is licensed with the HARDWARE as a single integrated product. In this case, the SOFTWARE PRODUCT may only be used with the HARDWARE as set forth in this EULA.
- d Rental - You may not rent, lease or lend the SOFTWARE PRODUCT. You may not make it available to others or post it on a server or web site.
- e Software Product Transfer - You may transfer all of Your rights under this EULA only as part of a permanent sale or transfer of the HARDWARE, provided You retain no copies, You transfer all of the SOFTWARE PRODUCT (including all component parts, the media and printed materials, any upgrades and this EULA), and provided the recipient agrees to the terms of this EULA. If the SOFTWARE PRODUCT is an upgrade, any transfer must also include all prior versions of the SOFTWARE PRODUCT.
- f Termination - Without prejudice to any other rights, KANTECH may terminate this EULA if You fail to comply with the terms and conditions of this EULA. In such event, You must destroy all copies of the SOFTWARE PRODUCT and all of its component parts.
- g Trademarks - This EULA does not grant You any rights in connection with any trademarks or service marks of KANTECH or its suppliers.

3 COPYRIGHT

All title and intellectual property rights in and to the SOFTWARE PRODUCT (including but not limited to any images, photographs, and text incorporated into the SOFTWARE PRODUCT), the accompanying printed materials, and any copies of the SOFTWARE PRODUCT, are owned by KANTECH or its suppliers. You may not copy the printed materials accompanying the SOFTWARE PRODUCT. All title and intellectual property rights in and to the content, which may be accessed through use of the SOFTWARE PRODUCT, are the property of the respective content owner and may be protected by applicable copyright or other intellectual property laws and treaties. This EULA grants You no rights to use such content. All rights not expressly granted under this EULA are reserved by KANTECH and its suppliers.

4 EXPORT RESTRICTIONS

You agree that You will not export or re-export the SOFTWARE PRODUCT to any country, person, or entity subject to US export restrictions.

5 CHOICE OF LAW

This Software License Agreement is governed by the laws of the State of New York.

6 LIMITED WARRANTY

- a NO WARRANTY
KANTECH PROVIDES THE SOFTWARE "AS IS" WITHOUT WARRANTY. KANTECH DOES NOT WARRANT THAT THE SOFTWARE WILL MEET YOUR REQUIREMENTS OR THAT OPERATION OF THE SOFTWARE WILL BE UNINTERRUPTED OR ERROR-FREE.
- b CHANGES IN OPERATING ENVIRONMENT
KANTECH shall not be responsible for problems caused by changes in the operating characteristics of the HARDWARE, or for problems in the interaction of the SOFTWARE PRODUCT with non-KANTECH SOFTWARE or HARDWARE PRODUCTS.
- c LIMITATION OF LIABILITY; WARRANTY REFLECTS ALLOCATION OF RISK
IN ANY EVENT, IF ANY STATUTE IMPLIES WARRANTIES OR CONDITIONS NOT D IN THIS LICENSE AGREEMENT, KANTECH'S ENTIRE LIABILITY UNDER ANY PROVISION OF THIS LICENSE AGREEMENT SHALL BE LIMITED TO THE GREATER OF THE AMOUNT ACTUALLY PAID BY YOU TO LICENSE THE SOFTWARE PRODUCT AND FIVE US DOLLARS (USD\$5.00). BECAUSE SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, THE ABOVE LIMITATION MAY NOT APPLY TO YOU.
- d DISCLAIMER OF WARRANTIES
THIS WARRANTY CONTAINS THE ENTIRE WARRANTY AND SHALL BE IN LIEU OF ANY AND ALL OTHER WARRANTIES, WHETHER EXPRESSED OR IMPLIED (INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE) AND OF ALL OTHER OBLIGATIONS OR LIABILITIES ON THE PART OF KANTECH. KANTECH MAKES NO OTHER WARRANTIES. KANTECH NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON PURPORTING TO ACT ON ITS BEHALF TO MODIFY OR TO CHANGE THIS WARRANTY, NOR TO ASSUME FOR IT ANY OTHER WARRANTY OR LIABILITY CONCERNING THIS SOFTWARE PRODUCT.
- e EXCLUSIVE REMEDY AND LIMITATION OF WARRANTY
UNDER NO CIRCUMSTANCES SHALL KANTECH BE LIABLE FOR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL OR INDIRECT DAMAGES BASED UPON BREACH OF WARRANTY, BREACH OF CONTRACT, NEGLIGENCE, STRICT LIABILITY, OR ANY OTHER LEGAL THEORY. SUCH DAMAGES INCLUDE, BUT ARE NOT LIMITED TO, LOSS OF PROFITS, LOSS OF THE SOFTWARE PRODUCT OR ANY ASSOCIATED EQUIPMENT, COST OF CAPITAL, COST OF SUBSTITUTE OR REPLACEMENT EQUIPMENT, FACILITIES OR SERVICES, DOWN TIME, PURCHASERS TIME, THE CLAIMS OF THIRD PARTIES, INCLUDING CUSTOMERS, AND INJURY TO PROPERTY.

WARNING: KANTECH recommends that the entire system be completely tested on a regular basis. However, despite frequent testing, and due to, but not limited to, criminal tampering or electrical disruption, it is possible for this SOFTWARE PRODUCT to fail to perform as expected.