

General description

The TM96.0 GENIE Explorer Variants A and B are evaluation and development kits for the HMT7742 GENIE PHY IC and the MESCO Engineering IO-Link protocol stack. They can be used to:

- evaluate the HMT7742 GENIE PHY IC
- develop sensor and actuator applications for the on-board Atmel ATtiny88 or ATmega328P microcontrollers
- develop sensor and actuator applications for the HMT7742 GENIE PHY IC and for other microcontrollers
- evaluate and develop products with the MESCO Engineering IO-Link protocol stack
- develop sensor and actuator applications for the future HMT7744 combined μ C/PHY IC

Partnership

MESCO Engineering, Atmel, and HMT have come together to form a partnership providing comprehensive support for IO-Link based products:

- **MESCO Engineering** - IO-Link stack design, software and hardware solutions
- **Atmel** - Microcontroller supplier
- **HMT** - High voltage IC design, test and supply, PCB module design and miniature packaging

TM96 Variant A - Demonstrator

A block diagram of this 4-layer FR4 variant A, 20mm x 6mm GENIE Explorer may be seen in Fig. 1.

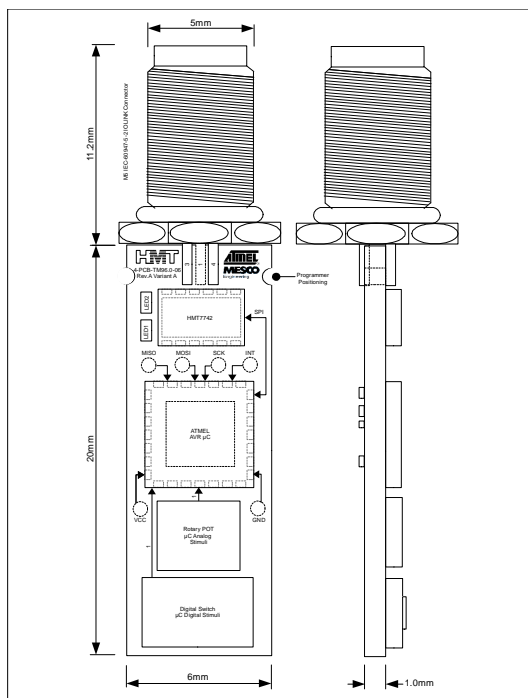


Fig. 1: Variant A demonstrator block diagram



Fig. 2: Variant A demonstrator and EMC test board

Demonstrator features:

- HMT7742 GENIE PHY IC
- Atmel ATtiny88 8-bit AVR microcontroller
- 2 x LED's [1 x red, 1x green]
- push button (digital sensor stimulus)
- potentiometer (analogue sensor stimulus)
- connection to IO-Link master (5mm IO-Link)

The TM96.0 GENIE Explorer variant A is supplied preprogrammed with an example application. This allows plug-and-play operation with either an IO-Link master or an SIO Mode load. The application represents either an analogue (incorporated rotary potentiometer) or a digital sensor (incorporated push button switch).

The device is suitable for insertion into a metal housing.

Included in delivery

- TM96.0 GENIE Explorer Variant A (Demonstrator)
- TM96.0 GENIE Explorer datasheet (inc. schematics and layout) on CD
- HMT7742 GENIE PHY IC datasheet on CD
- Getting started instructions
- MESCO IO-Link Stack datasheet on CD
- IO-Link Device Stack Library User Guide for TM96.0 GENIE Explorer on CD

In addition

- A 5mm - 12mm IO-Link adapter cable is available separately.
- A metal housing for EMC testing is available separately

Please find ordering details on the HMT web-site.

TM96 Variant B - Development board

The TM96.0 GENIE Explorer Variant B allows simplified connection for development. A block diagram of this 37mm x 30mm 4-layer FR4 PCB may be seen in Fig. 4.

Developer features (in addition to demonstrator):

- programming connections for the on-board Atmel ATmega328P microcontroller for programming with AVR JTAGICE mkII
- connection (SPI) for other microcontrollers
- expansion port for further IO's to the on-board microcontroller
- Footprints for external surge protection elements (in addition to the HMT7742's internal protections)

Included in delivery

- TM96.0 GENIE Explorer Variant B
- TM96.0 GENIE Explorer Variant B datasheet (inc. schematics and layout) on CD
- HMT7742 GENIE PHY IC datasheet on CD
- MESCO IO-Link stack for product development (trial version)
- MESCO IO-Link Stack datasheet on CD
- IO-Link Device Stack Library User Guide for TM96.0 GENIE Explorer on CD
- CD with MESCO IO-Link Lib as Object code suitable for linking with Atmel WinAVR compiler
- IO-Link API Library documentation on CD
- IO-Link Library HEX File on CD
- Company specific license for use of MESCO Engineering IO-Link stack, restricted to product development
- Example application source code

In addition

- A 5mm - 12mm IO-Link adapter cable is available separately.

Please find ordering details on the HMT web-site.

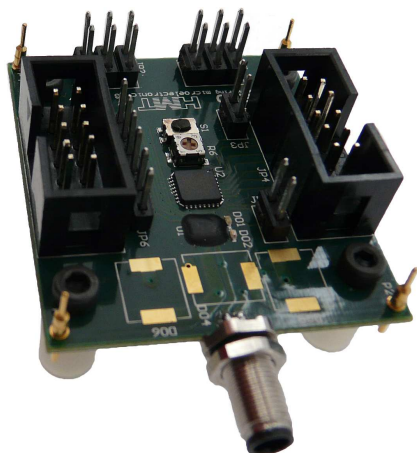


Fig. 3: Variant B development platform

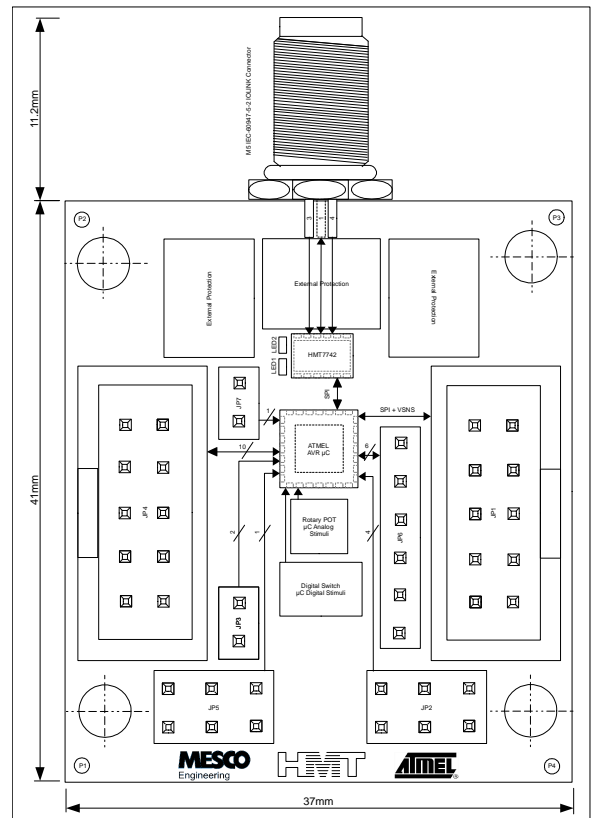


Fig. 4: Variant B block diagram

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