

## HMT7742 GENIE IO-LINK PHY

The GENIE IO-LINK PHY is a small format (4mm x 3mm, 12LD) physical transceiver IC for sensor and actuator devices, which handles signal driving on a 24V 3-wire cable including internal protections (short, thermal, surge and ESD), with UART functionality for IO-Link (framing, checksum, parity) and transmission timing. It is intended to be used with an external microcontroller connected via an SPI bus.

### Time-line

WK 17/09	HMT7742 ASIC will return from the foundry
WK 19-22/09	HMT7742 ASIC packaging
WK 22/09	HMT7742 available in pre-series quantities

## NEWS

**February 2009:** The device (in demonstrator form) has passed interoperability tests with different masters in combination with an Atmel Mega microcontroller and the Mesco Engineering IO-Link Protocol stack for all frame types in IO-LINK specification v1.0

**February 2009:** The surge protection has been demonstrated to withstand many thousand pulses, IEC 60255-5 (2A, 50us), with an initial ambient temperature up to 200°C, with significant margin. A full test report is available under NDA.

## TM96 GENIE EXPLORER

The TM96 GENIE EXPLORER is an evaluation and development kit for HMT7742 and HMT7744. It combines the HMT7742 IO Link PHY with an ATMEGA microcontroller running the MESCO Engineering IO Link protocol stack, in a small format PCB (Variant A demonstrator, Variant B development kit). The TM96 can be used to:

- USE CASES

  - evaluate the HMT7742
  - develop sensor and actuator applications for the HMT7742 using your microcontroller
  - develop sensor and actuator applications for the ATiny88 or ATmega328P microcontrollers, with or
  - without the MESCO Engineering IO-LINK protocol stack
  - develop HMT7744 applications

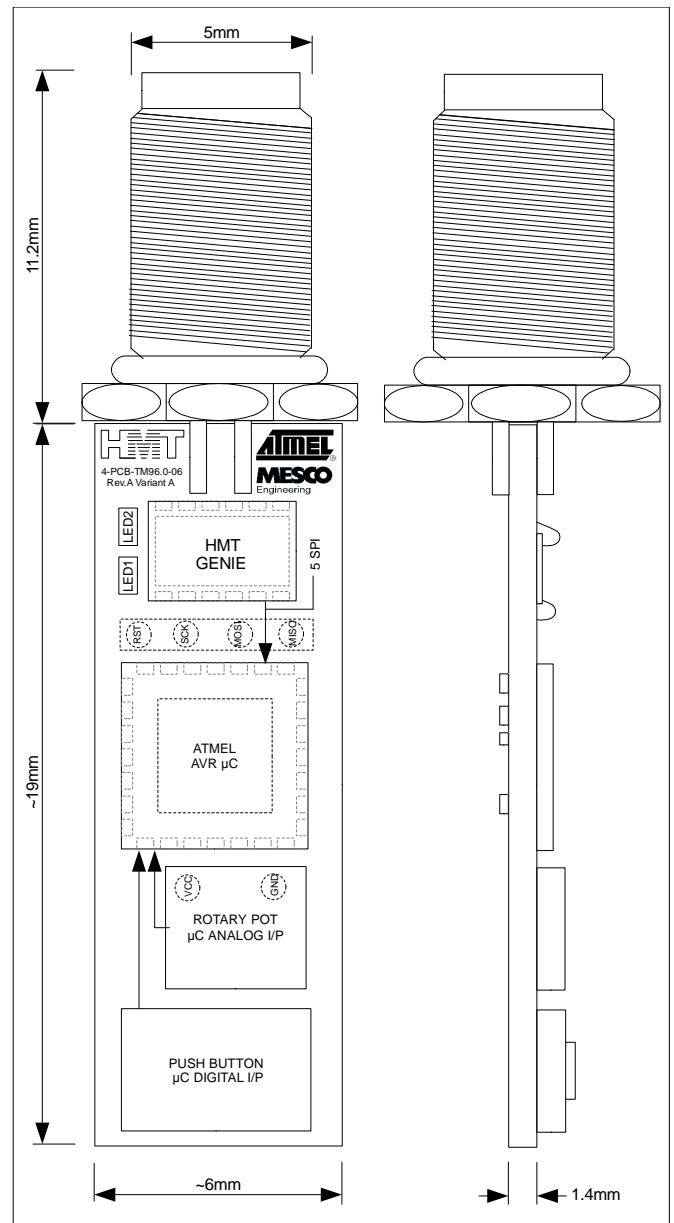


Fig. 1: TM96 GENIE Explorer Variant A

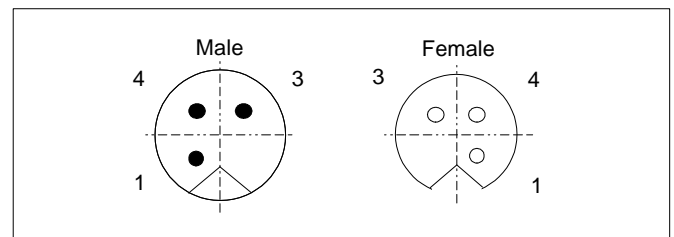


Fig. 2: 3 pole M5 IO-LINK Connector IEC 60947-5-2

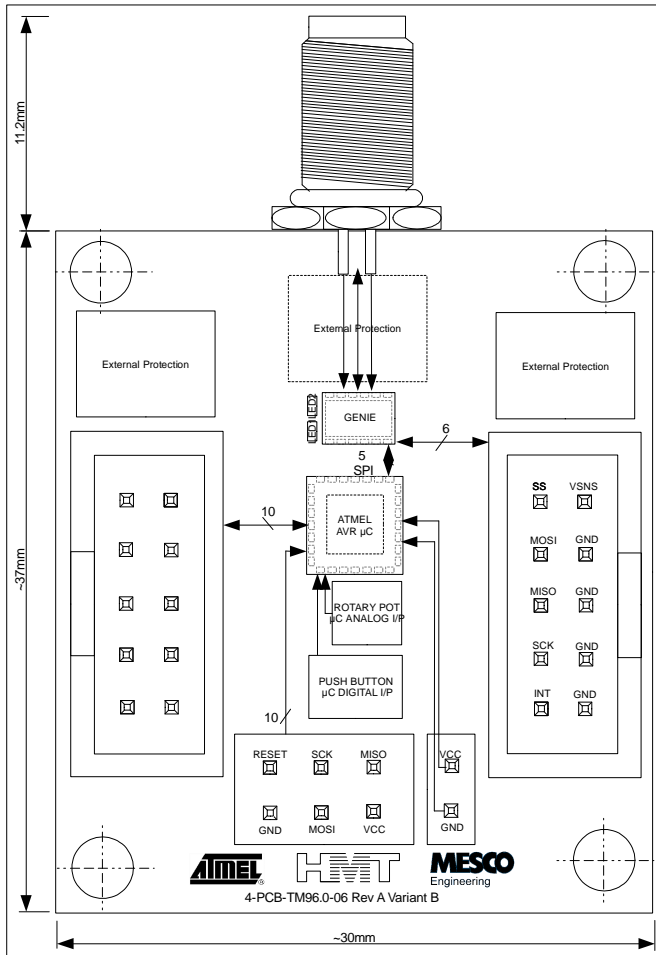


Fig. 3: TM96 GENIE Explorer Variant B

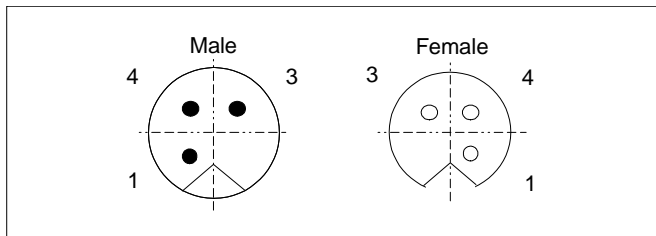


Fig. 4: 3 pole M5 IO-LINK connector IEC 60947-5-2

**Time-line**

WK 22/09	Boards available for customer delivery
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**HMT7743 GENIE Sensor Interface**

The HMT7743 GENIE Sensor interface is a single chip sensor solution based on the HMT7742 PHY, with additional functionality to realise a minimal IO-Link stack. It includes a configurable differential amplifier and comparator stage for simple sensors and also includes status LED drivers.

**Time-line**

Circuit elements are available and IC layout is provisionally planned for 2009. We are evaluating customer demand for this device.

**HMT7744 IO-LINK PHY and Protocol stack**

The HMT7744 GENIE Sensor interface is a single package solution based on the HMT7742 PHY and a co-packaged microcontroller with 8kByte or 16kByte Flash, targeted for an MLP 4mm x 3mm package.

**Time-line**

Pre-series are provisionally planned for the end of 2009. We are evaluating customer demand for this device.

**HMT7745 IO-LINK PHY IP**

The HMT7745 IO Link PHY IP is an IC design block available for integration into customer specific integrated circuits (ASICs) by HMT. This block realises the PHY and UART functionality of the HMT7742.

**Time-line**

Available now for design starts. Specification is available under NDA.

**HMT7746 Ministack IP**

The HMT7746 Ministack IP is an IC design block available for integration into customer specific integrated circuits (ASICs) by HMT. This block realises the PHY, UART, and minimal IO-Link protocol stack of HMT7743, and includes non-volatile memory write and control operations for configuration.

**Time-line**

Available now for design starts. Specification is available under NDA.