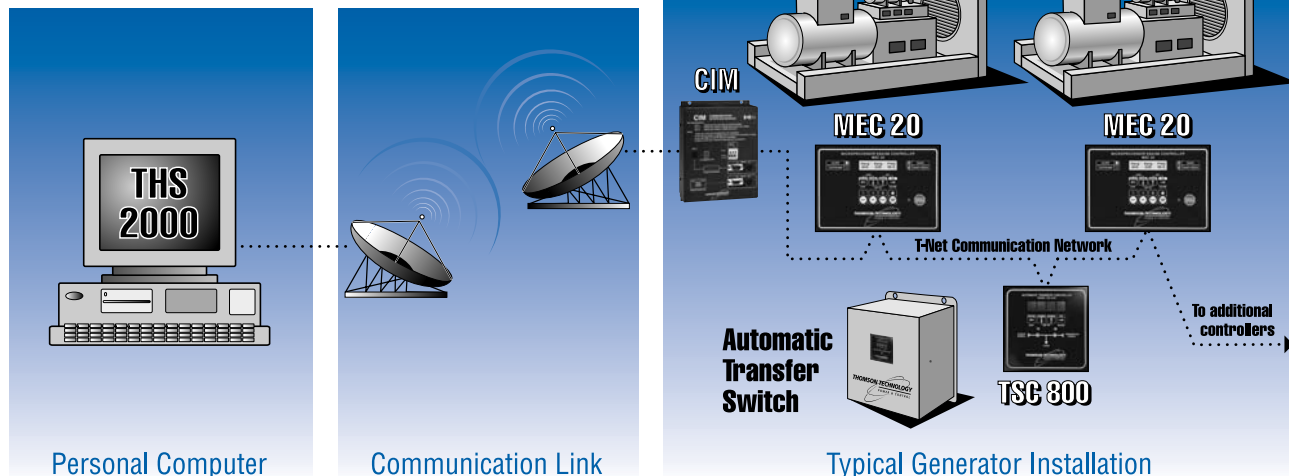


Typical TTI Remote Communication System



GENERAL DESCRIPTION

The **TTI Remote Communication System** provides remote monitoring and control of **TTI** microprocessor-based controllers as used in the power generation industry. The **Communication Interface Module (CIM)** is a hardware interface device which allows two way data transfer between **TTI** microprocessor-based controllers (such as models **MEC 20** or **TSC 800**) and a remote monitoring/controlling system. Utilizing Modbus™ protocol, the **CIM** can be integrated with building management systems, programmable logic controllers (PLC's) or used with a stand alone personal computer (PC). For remote monitoring and control applications utilizing a stand alone PC, **TTI** has developed model **THS 2000 Host Software** which operates on standard IBM™ compatible PCs. **THS 2000** is a user friendly, Windows™-based software program with pre-configured graphic screens showing operational status and analog data of connected controllers.

ADVANCED FEATURES

- Automatic callout from a generator site to a remote monitoring PC when a generator system or transfer switch activity occurs, such as a fault or status change. Up to three phone numbers can be programmed using 32 digit numbers to support pager use.
- Remote communication via telephone system (with modems) or a direct connected serial communication link using RS-232, -422 or -485 transmission types.
- The **THS 2000** program is designed for use with standard Windows 95™/Windows 98™, Windows NT™ and Windows 2000™ operating systems.
- One **CIM** module can control and monitor up to ten controllers at a generator site using a single telephone line or direct connected serial link.
- Direct connect configuration for applications not requiring Modbus protocol, auto-callout and the need to communicate to multiple controllers.
- Communication system parameters are configured in software using the **THS 2000** program.
- A three level password protected security system is provided to prevent unauthorized user access to a generator system.

DEVELOPMENT ASSISTANCE PROVIDED BY THE SCIENCE COUNCIL OF BC



CIM MODULE

The **Communication Interface Module (CIM)** is an advanced communication interface device for remote communication to **Thomson Technology's latest generation** of microprocessor-based engine generator control products. *One CIM* can communicate with *networked MEC 20* engine generator controllers and/or *TSC 800* transfer controllers using the TTI developed T-Net Communication Network. The serial communication port can be used for direct connection to a personal computer or other remote connected devices. An internal modem is provided with the **CIM** for direct connection to telephone systems. The **CIM** uses **Modbus™** protocol to provide communication to other systems such as PC's, PLC's or building management control systems.



CIM ADVANCED FEATURES

- Dedicated microprocessor-based design provides high speed remote communication and control of connected devices.
- One **CIM** module can provide interface to a complete networked controller system.
- Internal 14.4 kbaud modem for direct connection to telephone systems.
- Industry standard **Modbus™** protocol provides an open, non-proprietary communication link to a wide variety of system devices.
- Standard plug-in telephone RJ45/RJ11 type jacks and DB9 computer ports provide simple system interconnection.

ORDERING INFORMATION

The TTI Remote Communication System may be ordered in conjunction with control panels or transfer switches or as separately supplied components.

1. **CIM** — 2. **PC** — 3. **DSK** — 4. **DCC**

1. **BASIC MODEL:** The **CIM** is supplied with a 6ft (1.8m) communication cable for connection between the CIM and TTI controller (PC communication cable is not included). The CIM is to be mounted at the TTI controller location. Modbus™ device communication cable* and software programming of the customer's Modbus™ device is not included.
2. **APPLICATION TYPE:** Specify **PC** (Personal Computer) or **PLC** (Programmable Logic Controller). Port 2 is auto-detecting in the PC mode for either RS232, RS422, RS485** or Modem uses.
3. **THS 2000 SOFTWARE:** Specify **DSK** to order a 3.5" floppy diskette. Leave field "blank" if THS 2000 software is to be obtained (free of charge) via downloading from Website.
4. **DIRECT CONNECT CONFIGURATION:** For applications not requiring Modbus protocol, auto-callout and the need to communicate to multiple controllers, **THS 2000 Host Software** can be used without the CIM module in "**Direct Connect**" configuration. To use the **THS 2000 Host Software** directly with TTI controllers (i.e. without the CIM module), the following additional equipment (not TTI supplied) is required; a) RS232/422 converter, b) all communication cables, and c) external modem (if required). Contact TTI for technical requirements of this equipment to ensure proper equipment coordination.

Note: All configurations of the **CIM** are set via software and are field programmable by the customer utilizing a customer supplied PC and THS 2000 software.

*For detailed information on communication cable requirements or additional communication accessories, refer to instruction manual or contact TTI factory.

**For local connected PC applications using RS485, a RS232 converter is required for the PC (converter is not included).

CIM SPECIFICATIONS

- **Power Supply:** 8 to 35Vdc, negative ground
- **Power Consumption:** 5 watts (max.)
- **Operating Temperature:** -15°C to +50°C
- **Storage Temperature:** -40°C to +85°C
- **Environmental:** NEMA 1
- **Vibration:** 1g, 5-250Hz
- **Humidity:** 5 to 95% non-condensing
- **Dimensions:** 150mm W x 180mm H x 50mm D
- **Internal Modem:** 14.4 kbaud, Hayes™ AT set compatible
- **Communication Ports Hardware:**
 - Port 1** Telephone T/R signals
 - Port 2** RS232/RS422/RS485, asynchronous, 1200-19200 baud
 - Port 3** RS422, asynchronous, 4800 baud
- **Communication Ports Software Protocol:**
 - Port 1** Telephone
 - Port 2** **Modbus™** protocol
 - Port 3** TTI T-Net protocol

Note: Specifications subject to change without notice.

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THOMSON TECHNOLOGY INC. • 9087A - 198th STREET, LANGLEY, BC CANADA V1M 3B1

TELEPHONE: (604) 888-0110 • FAX: (604) 888-3381 • E-MAIL: info@thomsontechnology.com • www.thomsontechnology.com