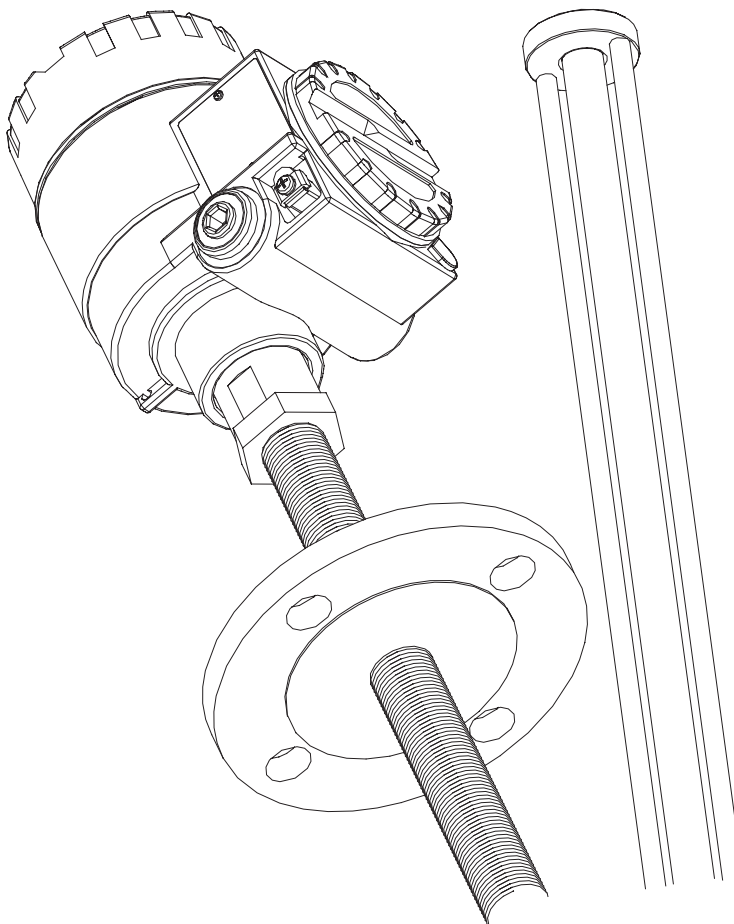
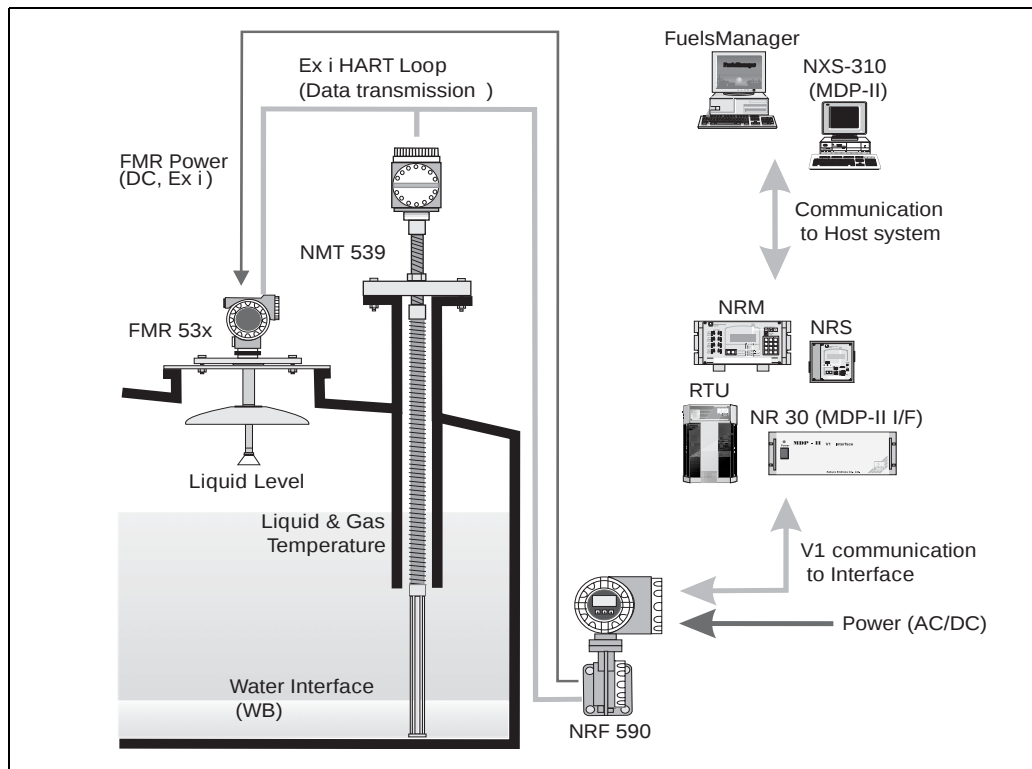


Prothermo **NMT 539**

Operating Instructions and Description of Instrument Functions



Basic device layout of the Prothermo NMT 539



Step 1. Prothermo installation on tank top

- The actual installation may require an installer to work in a hazardous area. Safety must be taken into account in order to avoid any harmful conditions.
- The installation method depends on the type of Prothermo. Refer to BA025N/08/en "Installation Instructions."

Step 2. Wiring to the host instruments (Tank Side Monitor NRF 590 or Proservo NMS 53x)

- Wiring material and conditions must be in accordance with intrinsically safe standards.
- One end (normally on the host instrument side) of the shield twisted pair of cables must be grounded at the terminal connection.
- Refer to BA025N/08/en "Installation Instructions."

Step 3. Prothermo NMT 539 initial setup

- Both NMT 539's own device setting and local HART setting to the host instrument must be performed.

Step 4. Data flow from the Prothermo NMT 539 to the host instruments

- Individual element temperature data: Individual row element temperature can be accessed regardless of liquid level information on the NMT 539's data matrix.
- Average temperature data: The host instrument sends liquid level data on the HART line to the Prothermo. The Prothermo calculates both Gas / Liquid phase average temperature based on this given liquid level.
- Water Bottom (WB) data: WB data and information are continuously scanned and transmitted by host instruments as long as the local HART connection is active.

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1 Safety instructions

1.1 Designated use

The Prothermo NMT 539 is a multi-spot Pt100 average thermometer combined with a HART signal converter to meet the demand of temperature measurement for both custody transfer and inventory control applications. One unique feature is the implementation of capacitance water / oil interface measurement functionality (Water Bottom) for radar tank gauging applications together with the Endress+Hauser Micropilot S-series radars and the Tank Side Monitor NRF 590. Mounted on the tank top, the NMT 539 provides both temperature and water interface information on the two wire, intrinsically safe (i.s.) powered local HART loop. The designated host controller can be either the Endress+Hauser Tank Side Monitor NRF 590 or Proservo NMS 53x.

1.2 Installation, commissioning and operation

- Mounting, electrical installation, start-up and maintenance of the instrument may only be carried out by trained personnel authorized by the operator of the facility.
- Personnel must absolutely and without fail read and understand this Operating Manual before carrying out its instructions.
- The instrument may only be operated by personnel who are authorized and trained by the operator of the facility. All instructions in this manual are to be observed without fail.
- The installer must make sure that the measuring system is correctly wired according to the wiring diagrams. The measuring system is to be grounded. Detailed Installation instructions are described in BA025N/08/en.
- Please observe all provisions valid for your country and pertaining to the opening and repairing of electrical devices.

1.3 Operational safety

Hazardous areas

Measuring systems for use in hazardous environments are accompanied by separate "Ex documentation", which is an *integral part* of this Operating Manual. Strict compliance with the installation instructions and ratings as stated in this supplementary documentation is mandatory.

- Ensure that all personnel are suitably qualified.
- Observe the specifications in the certificate as well as national and local regulations.

FCC approval

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.

Caution!



Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

1.4 Return

The following procedures must be carried out before the NMT 539 is sent to Endress+Hauser for repair:

- Always enclose a duly completed "Declaration of Contamination" form. Only then can Endress +Hauser transport, examine and repair a returned device.
- Enclose special handling instructions if necessary, for example, safety data sheet as per EN 91/155/EEC.
- Remove all residue which may be present. Pay special attention to the gasket grooves and crevices where fluid may be present. This is especially important if the fluid is dangerous to health, e.g. corrosive, poisonous, carcinogenic, radioactive, etc.

Note!



A copy of the "**Declaration of Contamination**" is included at the end of this operating manual.

Caution!



- No instrument should be sent back for repair without all dangerous material being completely removed first, e.g. in scratches or diffused through plastic.
- Incomplete cleaning of the instrument may result in waste disposal or cause harm to personnel (burns, etc.). Any costs arising from this will be charged to the operator of the instrument.

1.5 Disposal

In case of disposal, please separate the different components according to their material consistency.

1.6 Software history

Software version / Date	Software changes	Documentation changes
V 01.01.00 / 09.2003	Original software. –	

1.7 Contact addresses of Endress+Hauser

The addresses of Endress+Hauser are given on the back cover of this operating manual. If you have any questions, please do not hesitate to contact your E+H representative.

1.8 Notes on safety conventions and symbols

In order to highlight safety-relevant or alternative operating procedures in the manual, the following conventions have been used, each indicated by a corresponding symbol in the margin.

Safety conventions

Symbol	Meaning
	Warning! A warning highlights actions or procedures which, if not performed correctly, will lead to personal injury, a safety hazard or destruction of the instrument
	Caution! Caution highlights actions or procedures which, if not performed correctly, may lead to personal injury or incorrect functioning of the instrument
	Note! A note highlights actions or procedures which, if not performed correctly, may indirectly affect operation or may lead to an instrument response which is not planned

Explosion protection

	Device certified for use in explosion hazardous area If the device has this symbol embossed on its name plate, it can be installed in an explosion hazardous area
	Explosion hazardous areas Symbol used in drawings to indicate explosion hazardous areas. – Devices located in and wiring entering areas with the designation “explosion hazardous areas” must conform with the stated type of protection
	Safe area (non-explosion hazardous area) Symbol used in drawings to indicate, if necessary, non-explosion hazardous areas. – Devices located in safe areas still require a certificate if their outputs run into explosion hazardous areas

Electrical symbols

	Direct voltage A terminal to which or from which a direct current or voltage may be applied or supplied
	Alternating voltage A terminal to which or from which an alternating (sine-wave) current or voltage may be applied or supplied
	Grounded terminal A grounded terminal, which as far as the operator is concerned, is already grounded by means of an earth grounding system
	Protective grounding (earth) terminal A terminal which must be connected to earth ground prior to making any other connection to the equipment
	Equipotential connection (earth bonding) A connection made to the plant grounding system which may be of type e.g. neutral star or equipotential line according to national or company practice

2 Identification

2.1 Device designation

2.1.1 Nameplate

The following technical data are given on the instrument nameplate:

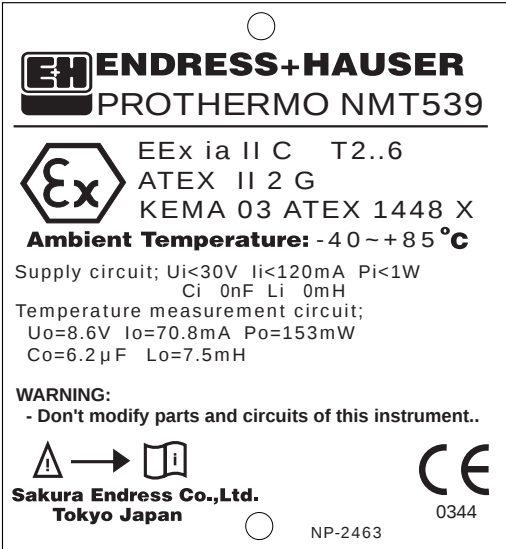


Fig 1 Information on the nameplate of the Prothermo NMT 539 with ATEX approval, "Converter only" version.

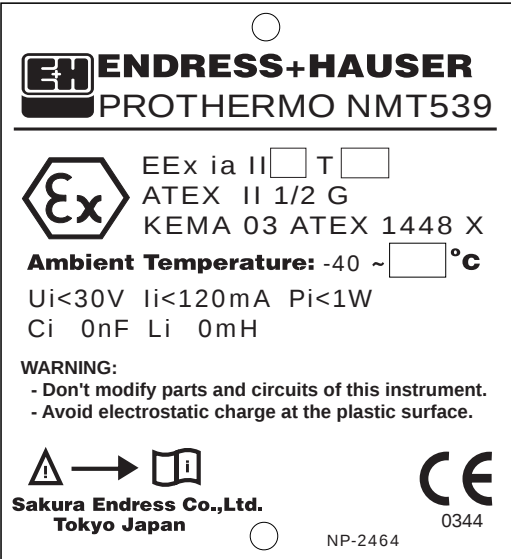


Fig 2 Information on the nameplate of the Prothermo NMT 539 with ATEX approval.

2.1.2 Ordering structure

Ordering structure NMT 539

[illegible]

Endress + Hauser

2.2 Scope of delivery



Caution!

It is essential to follow the instructions concerning the unpacking, transport and storage of measuring instruments given in the chapter, Incoming acceptance, transport and storage.

The scope of delivery consists of:

- Assembled instrument
- Accessories

Accompanying documentation:

- Installation manual
- Operation and Description of Instrument Functions
- Approval documentation: if this is not included in the operating manual.

2.3 Certificates and approvals

CE mark, declaration of conformity

The instrument is designed to meet state-of-the-art safety requirements, has been tested and left the factory in a condition in which it is safe to operate. The instrument complies with the applicable standards and regulations in accordance with EN 61010 "Protection Measures for Electrical Equipment for Measurement, Control, Regulation and Laboratory Procedures." The instrument described in this manual thus complies with the statutory requirements of the EG directives. Endress+Hauser confirms the successful testing of the instrument by affixing to it the CE mark.

2.4 Registered trademarks

HART ®

Registered trademark of HART Communication Foundation, Austin, USA

ToF ®

Registered trademark of the company Endress+Hauser GmbH+Co. KG, Maulburg, Germany

2.5 Incoming acceptance, transport, storage

2.5.1 Incoming acceptance

Check the packing and contents for any signs of damage.

Check the shipment, make sure nothing is missing and that the scope of supply matches your order.

2.5.2 Transport



Caution!

Follow the safety instructions and transport conditions for instruments of more than 18 kg.

2.5.3 Storage

Pack the measuring instrument so that it is protected against impacts from storage and transport. The original packing material provides the optimum protection for this.

The permissible storage temperature is -40 °C...+85 °C (-40 °F...+185 °F).

以上内容仅为本文档的试下载部分，为可阅读页数的一半内容。如要下载或阅读全文，请访问：<https://d.book118.com/978121006044006076>