HET63

Electrodeless Conductivity Transmitters

Features

- Measurement of conductivity, % solution concentration, salinity and temperature

- IP66 enclosure.

- Wall mounting or head mounting versions

- Detachable sensors on all variants for easy maintenance.

- Up to two isolated 4-20mA current and two relay outputs.

- Relays can be configured for on/off, time and pulse proportional control

- Digital inputs for external range changing

- Cable termination via detachable connectors, no need to open the enclosure

- Low voltage operation 15-30v DC

- Ideal for cooling tower bleed, rinse water and solution concentration applications

- Preset curves stored for common chemicals and salinity

- Custom curve from 2 to 9 points can be entered.

Two different options of the HET63 transmitter are available with the base model offering a single industry standard 4-20mA output while the Advanced HET63 offers two 4-20mA outputs enabling the process temperature to be measured and transmitted as well as the conductivity or solution concentration value.

The Advanced HET63 model also has three digital inputs for remote range changing via a plc.

Both of the HET63 versions are available as head mounted transmitters mounted on an ECS64 Electrodeless conductivity sensor or as a wall-mounting version with a detachable cable and separate LTH ECS20 series or ECS40 series Electrodeless conductivity sensor.

The HET63 is able to display the measured value in conductivity in S/cm or mS/cm or % solution concentration as well as displaying the process temperature in C or F.

The 2 off independent relay outputs can be allocated to either process or temperature measurement, with on/off control, variable hysteresis and time delays along with time and pulse proportional relay operation all configurable from the user menu.

Relays can be programmed to energise on a variety of different functions including errors, instrument status, e.g. off-line/calibration mode, or if a dose alarm time has been exceeded.

All cable connections to the HET63 are by detachable connectors with no need to open the HET63 enclosure.

The HET63 has been designed with two levels of programming to cater for both novice and experienced instrument operators.

On-line HELP facilities consist of a series of text error messages which are displayed when programming is incorrect, or if a sensor is not reading a sensible value for the instrument set-up.

A further enhancement is multi-level security, where day to day operator access can be limited to viewing data and settings only, while allowing full access to the instrument programmer.

Configuration data can be saved in one of two independent back-up locations, which can be used for fast reconfiguration, emergency restoration of settings, recovery after tampering by unauthorised operators, etc.

Multilingual text displays can be selected with a choice of English, French, Spanish and Italian.

As an alternative to showing a digital displayed value the HET63 can display the current outputs as a bar graph. It is possible to display current output A, current output B, either current outputs or alternating in the bar graph mode. The mode of display can be changed under the configuration menu.

Both measurement inputs and current output(s) can be individually calibrated from the front panel. For applications requiring accurate measurements it is possible to optimise the instrument reading to either a standard solution or a titrated solution concentration. An off-line facility allows the instrument to be adjusted without disturbing external processes by de-energising the set point relays and holding the current output(s) at the last on–line value.

The HET63 also has a simulate mode enabling the user to test the operation of the set point and current outputs.

Automatic temperature is available as standard on all models. For applications where temperature compensation is not required it can be switched out.

Specification

Measurement input
ECS20, ECS40 or ECS60 series
Electrodeless conductivity sensor.

Cell constant adjustment
0 – 10.0

Range of measurement
0 to 999.9 uS/cm, 9.999, 99.99
and 999.9 mS/cm.

0 to 16.00% NaOH

0 to 30.00% NaCl

0 to 15.00% HCl

0 to 25.00% H2SO4

0 to 25.00% H3PO4

0 to 41.00 ppt Salinity

0 to 99.9% custom from 2 to 9 points
can be entered.

Range selection
Internal single or auto range, or external
range selection via digital inputs.

Accuracy
±1% of range

Linearity
±0.1% of range

Repeatability
±0.1% of range

Operator adjustment
Solution ±20% offset,
Conductivity ±10% slope

Connection cable
Up to 10 metres 54E/54H cable

Temperature sensor
PT1000 RTD sensor which can be
mounted in the conductivity sensor
or separately.

Temperature range
-50°C to +300°C, resolution 0.01°C

Temperature accuracy
±0.2°C

Operator adjustment
±50.0°C (temperature)

Temperature compensation type
Automatic or manual, 0 to 100°C,
base 20 or 25°C (conductivity only),
slope 0 to 9.9%/°C.

Off-line facility
The relays are de-energised and the current
output (for calibration and commissioning)
is held at the last on-line value

Ambient operating temperature
-20°C to +50°C for full specification.

Ambient temperature variation
±0.01% of range/°C (typical).

Display
Custom backlit LCD module. 4 digit
+ sign main display, 3x2 characters for
units indication, and 16 characters for
information and programming.

Digital input
3-bit digital input for remote selection
of range.

Current output (1 standard, 2 optional)
Selectable 0-20mA or 4-20mA, fully
isolated to 2kV. 750 Ohm max. load).
(Expandable up to 5% of any operating
range (mS, %, °C) and can be offset
anywhere in that range.

Operator adjustments: +1mA zero and
±1mA span for remote monitor calibration.

Set point/alarm relays (2 optional)
Relays can be configured to operate as
set points or on alarm conditions. Relays
have volt free changeover contacts rated
at 5A 30vDC/5A 250vAC (non-inductive).
Red LED's indicate relay energised.

Set point modes:
Fully configurable set points (mS, % and°C)
on/off, time proportioning, pulse proportioning,
and band modes.

Adjustable delay timers up to 10:00 mm:ss
in the on/off mode.

Hysteresis 0 to 9.9% in the on/off mode.

Adjustable dose alarm timer up to 90:00
mm:ss in all modes

Adjustable cycle time, and proportional
band in the proportional modes.

Switches
Four tactile feedback push buttons

EMC:
2004/108/EC using BS EN 61326:2006

Low voltage directive:
2006/95/EC using BS EN 61010-1:2001

Power supply
15–30vDC at 200 mA

Head mount housing
ABS Conductive blue plastic, IP66 rated

Weight:
600g (instrument only)

Dimensions:
100 x 116 x 145 mm (h, w, d)
excluding connectors

Order Codes

Type No	Part No	Description
HET63	1142	HET63 IP66 wall mounting transmitter complete with mounting kit. Single 4-20mA output.
HET63	1143	HET63 Advanced IP66 wall mounting transmitter complete with mounting kit. 2 x 4-20mA outputs & 2 x relay outputs.

Head Mounted Transmitters

Type No	Part No	Description
HET63	1138	HET63 IP66 head mounting transmitter complete with ECS64 Electrodeless conductivity sensor & 1.5" PVC tee piece. Single 4-20mA output.
HET63	1139	HET63 Advanced IP66 head mounting transmitter complete with ECSC64 Electrodeless conductivity sensor & 1.5" PVC tee piece. 2 x 4-20mA outputs & 2 x relay outputs.

* Please refer to the LTH Electrodeless conductivity price list for full details on the different Electrodeless sensor options for use with the wall-mounting transmitter.