

# Test Unit Type GTU8



- Portable test unit
- Monitoring of Dupline® channel status
- LCD-display
- 12-key tactile keyboard
- Supplied by Dupline®
- Transmission latch
- Dual-group reading
- Analog BCD reading
- Split I/O channel reading

## Product Description

Test unit for Dupline® modules and networks. Monitoring/control unit with LCD-display.

Highly recommended for Dupline® system start-up, troubleshooting and maintenance.

## Ordering Key

**GTU8**

Type: Dupline®  
Type no. \_\_\_\_\_

## Type Selection

Supply	Ordering no. Test unit
Supplied by Dupline®	<b>GTU8</b>

## Supply Specifications

<b>Power supply</b>	Supplied by Dupline®
Reverse-polarity protection	Yes
Rated operational current	< 4.0 mA

## Product Specifications

<b>Output</b> Connection	Dupline® 3 mm Jack socket
<b>Display</b> Type Height of dots	2 x 16 characters LCD 5 mm
<b>Keyboard</b> No. of keys Channel keys Command keys	Tactile keys 12 1-8 « ↑ » « ↓ » (scroll up/down) « MODE », « ENTER »
<b>Cable 1</b> GTU8 connector Dupline® connector Signal Common	GTU8 to Dupline® 3 mm Jack plug 2 mini grips Red Black
<b>Cable 2</b> GTU8 connector Dupline® connector	GTU8 to ASIC module 3 mm Jack plug 1 6/6 modular plug

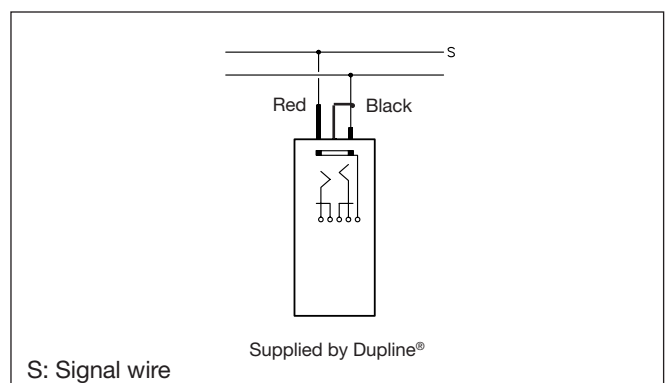
## General Specifications

<b>Environment</b>	
Degree of protection	IP 40
Pollution degree	3 (IEC 60664)
Operating temperature	0° to +50°C (+32° to +122°F)
Storage temperature	-20° to +60°C (-4° to +140°F)
<b>Humidity</b> (non-condensing)	20 to 80%
<b>Mechanical resistance</b>	
Shock	15 G (11 ms)
Vibration	2 G (6 to 55 Hz)
<b>Dimensions</b> (l x w x d)	145 x 90 x 28 mm
<b>Material</b>	ABS, grey
<b>Weight</b>	250 g

## Additional Information

Scope of supply	
1 x Test unit	GTU8
1 x Cable 1 (mini grips)	GTU8 - GRIP - CAB
1 x Cable 2	GTU8 - ASIC - CAB

## Wiring Diagram



## Mode of Operation

128-channel portable transmitter/receiver unit supplied by Dupline®. The GTU8 can be used anywhere along the two wires to monitor and control the status of Dupline® channels. This unit is highly recommended for start-up and maintenance work on Dupline® systems.

The GTU8 can operate in 6 different modes:

- Digital 1 group
- Digital 2 groups
- Edit Tx-latch
- Analog BCD
- Split I/O
- Sensor Calibration

The start-up mode is "Digital 1 group".

To change mode:

1. Press « Mode »
2. Shift between mode options by pressing either « ↑ » or « ↓ ».
3. Select mode by pressing « Enter ».

### Digital 1 group

Once connected to the Dupline®, the display shows the status of channel group A. Active channels are indicated by their numbers. Pressing «1», «2» ... «8» will activate the corresponding Dupline channel in the selected channel group.

Pressing « ↑ » or « ↓ » changes the channel group shown in the display.

### Digital 2 groups

When the mode "Digital 2 groups" is selected, the user may select an additional channel group for permanent monitoring on the bottom line of the display. The channel status of the two selected groups can now be monitored, but changing the channel status through the keys «1» ... «8» only affects the channels displayed in the upper row of the display. Even so, pressing the « ↑ » or « ↓ »

key only changes the channel group in the upper row of the display.

### Edit Tx-latch

In this mode it is possible to "latch" the activation of one or more channels. This means that the GTU8 will continue transmitting on the channel(s) even though the corresponding transmission button is released.

To cancel the transmission on a channel, press the corresponding transmission button again.

The latched transmission will continue even if the channel group or mode is changed. In order to change the status of a latched transmission, it is necessary to re-enter the "Edit Tx-latch" mode.

All the latched channels are reset to normal Dupline® operation whenever the GTU8 becomes disconnected from the Dupline®.

### Analog BCD

In this mode it is possible to monitor values from analog transmitters that use the multiplexed 3 1/2-digit BCD format. The analog values are shown as BCD numbers within the range of -1999 to 1999.

By pressing « ↑ » or « ↓ » the group addresses can be changed. By keeping « Enter » pressed while activating « ↑ » or « ↓ », the multiplex address will change instead.

The display will show "Wait" until the selected multiplex address has been present on channels A1-A4.

If no analog value is transmitted on the selected address, the display will show: "None".

If the analog value on the selected address is not valid, the display will show: "Error".

If the multiplex address "OFF" is selected, the display will show the analog value transmitted on the selected channel groups disregarding the multiplex address.

"OFF" should be selected when the analog transmitters are used in non-multiplexed mode.

If a specific analog transmitter is to be tested, it is possible to set up its multiplex address in "Tx-latch" mode and then go back to the "Analog BCD" mode to monitor the value.

### Split I/O

In this mode it is possible to see the status of split I/O channels.

The upper row in the display shows the output from the master generator.

The lower row in the display shows inputs from Dupline units to the master generator.

By pressing « ↑ » or « ↓ » the group addresses can be changed.

Pressing «1», «2» ... «8» will activate the corresponding Dupline channel in the selected channel group.

### Sensor Calibration

The Sensor Calibration function is carried out as a sequence of steps. The function controls one channel on the Dupline® bus to tell the attached sensors to calibrate.

1. Enter this function and select the decided Dupline® group:

"SELECT SENSOR  
CALI GROUP: X"  
(X is the group number).  
Press enter when the wanted group is selected.

2. When Group is selected the channel within the group must be selected.

"SELECT SENSOR  
CALI CHANNEL: XY"  
(X = Group number,  
Y = Channel in group X).  
Press enter when the wanted channel is selected.

3. When the channel has been selected, an intermediate state is entered:

"PRESS ENTER TO  
CALIBRATE!"

Press enter to start Calibrating.

4. When enter is pressed the calibration is started and a progress bar is shown in the display:

"0%.\*\*\*\*\*  
\*\*\*\*\*:100%"

Don't press anything the GTU8 will change state automatically.

5. When calibration is finished the following will be shown in the display:

"FINISHED! PRESS  
MODE TO EXIT"

Pressing the mode button is the only way to restart calibration or entering a new mode of operation!

**Warning:** Do not plug or unplug the Jack connector when the GTU8 is connected to Dupline®. This will cause a short-circuit of the two wires.

**Note:** If the Dupline® carrier is missing, the display will not turn on.