



## 3641-20 HUMIDITY LOGGER

Data Logger 

**Advanced humidity sensor tough against condensation and up to 5 years of extended life**  
**Capture and manage temperature and humidity data in all fields**



- Temperature and humidity measurement and recording at fixed intervals
- Wide measurement range, fast response time
- Extended sensor life ( about 5 years ) and condensation resistant
- Compact and lightweight ( 70 g )
- High-capacity recording ( 8,000 data points × 2ch )
- Flexible recording intervals of 14 steps from 2 second to 60 minutes
- View recorded data graphically on a PC
- Protects data during battery discharge and replacement



- Manage temperature and humidity in buildings, factories and offices
- Control the air quality in planes, trains and automobiles
- Check the air conditioning level in factories to save energy
- For ISO-9001 ( International Standard for Quality control )
- For ISO-14001 ( International Standard for Environmental Management systems )



- HACCP applications in food processing plants
- Manage temperature and humidity during transport of foodstuffs
- Manage temperature during cooling processes
- Record data in temperature-sensitive areas such as supermarkets, convenience stores, restaurants, hotels and other public facilities
- Log meteorological data
- Manage greenhouse temperatures and humidity values



**ISO14001**  
JQA-E-90091



<http://www.hioki.co.jp/>

HIOKI company overview, new products, environmental considerations and other information are available on our website.

## ■ 3641-20 HUMIDITY LOGGER Specifications

|                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Sensor types</b>                                          | 9680 HUMIDITY SENSOR ( Temperature 1 ch + Humidity 1 ch )<br>Internal temperature sensor ( Thermistor, Temperature 1 ch )<br>9631 TEMPERATURE SENSOR ( Option, Temperature 1 ch )                                                                                                                                                                                                                                                                                                           |
| <b>Input</b>                                                 | Temperature 1 ch + Humidity 1 ch ( using 9680 HUMIDITY SENSOR )                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Measuring range<br/>(resolution: 0.1 °C,<br/>0.1 %rh)</b> | -40.0 to 85.0 °C / 0.0 to 100.0 %rh ( 9680 HUMIDITY SENSOR )<br>-20.0 to 70.0 °C ( -4 to 158 °F ) ( Internal temperature sensor )<br>-40.0 to 180.0 °C ( -40 to 356 °F ) ( External temperature sensor 9631 )                                                                                                                                                                                                                                                                               |
| <b>Measurement accuracy</b>                                  | Temperature: $\pm 0.5^{\circ}\text{C}$ ( 0.0 to 35.0 °C ) / $\pm 0.9^{\circ}\text{F}$ ( 32 to 95 °F )<br>$\pm 1.0^{\circ}\text{C}$ ( -40.0 to 0.1 °C / 35.1 to 70.0 °C ) / $\pm 1.8^{\circ}\text{F}$ ( -40 to 32 °F / 95 to 158 °F )<br>$\pm 2.0^{\circ}\text{C}$ ( 70.1 to 120.0 °C ) / $\pm 3.6^{\circ}\text{F}$ ( 158 to 248 °F )<br>$\pm 5.0^{\circ}\text{C}$ ( 120.1 to 180.0 °C ) / $\pm 9.0^{\circ}\text{F}$ ( 248 to 356 °F )<br>Humidity: See the Accuracy table 1 at bottom right |
| <b>Response time</b>                                         | 9680 SENSOR: Temperature Approx. 100 s / Humidity Approx. 300 s<br>Internal temperature sensor: Temperature Approx. 25 min<br>External temperature sensor 9631: Temperature Approx. 22 to 100 s                                                                                                                                                                                                                                                                                             |
| <b>Long time stability</b>                                   | $\pm 1.0\%$ rh ( 5 years at 25 °C / 77 °F and 50 %rh, reference value)                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Calibration</b>                                           | 1 year                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Water resilience</b>                                      | IP54 ( water resistant ) : Unaffected by showing test.                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Display</b>                                               | Measurement Value Display, Recording Status (Recording / Reserved Time Wait), Recording Intervals, Battery Status (Battery Residual Power: 4 Levels)                                                                                                                                                                                                                                                                                                                                        |
| <b>Recording intervals</b>                                   | 2/5/10/15/20/30 seconds, 1/2/5/10/15/20/30/60 minutes                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Recording data count</b>                                  | 8,000 Data $\times$ 2 channels                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Recording start</b>                                       | Manual Start, Reserved Time Start                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Recording end</b>                                         | Manual Stop, Memory Full                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Recording method</b>                                      | One-time recording: Stopped when memory is full.<br>Endless recording: Old data is overwritten when memory is full.                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Contents of settings</b>                                  | Operations using the unit key:<br>Recording intervals, manual start, manual stop<br>Operations from a PC application:<br>Current time, recording intervals, recording start, recording method, comments                                                                                                                                                                                                                                                                                     |
| <b>Data Back-up</b>                                          | Available ( Data not erased by weak batteries or battery replacement)                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Interface</b>                                             | Optical communication using infrared light, requires a separate 3911-20 COMMUNICATION BASE                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Power supply</b>                                          | AAA-size alkaline batteries (LR03) 1.5V $\times$ 2                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Maximum rated power</b>                                   | 0.1 VA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Continuous use time</b>                                   | Approx. more than 3 months (at 20 °C / 68 °F) (When recording at one-minute intervals, power conservation function is OFF.)<br>Approx. more than 20 days (at 20 °C / 68 °F) (when recording at one-minute intervals, power conservation function is OFF.)                                                                                                                                                                                                                                   |
| <b>Dimensions, mass</b>                                      | Approx. 57W $\times$ 74H $\times$ 19.5D mm ( 2.24W $\times$ 2.91H $\times$ 0.77D in )<br>( not including protrusions ) / Approx. 70 g ( 2.6 oz ) ( including batteries )                                                                                                                                                                                                                                                                                                                    |
| <b>Operating temperature and humidity</b>                    | -20 to 70 °C ( -4 to 158 °F ) , 80% rh (there must be no condensation)                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Accessories</b>                                           | 9680 HUMIDITY SENSOR<br>AAA-size alkaline batteries (LR03) $\times$ 2                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Options</b>                                               | See below.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

### Model 3641-20 HUMIDITY LOGGER

#### ■ Options

##### 3911-20 COMMUNICATION BASE

9680 HUMIDITY SENSOR ( 1m , included with 3641-20 )

9680-01/02 HUMIDITY SENSOR ( 5m / 10m )

9631-01/11/21 TEMPERATURE SENSOR ( molded type 1m/5m/10m )

9631-02 TEMPERATURE SENSOR ( needed type 1m )

9631-03 TEMPERATURE SENSOR ( cease type 1m )

9631-04 TEMPERATURE SENSOR ( rag connector terminal type 1m )

9631-05 TEMPERATURE SENSOR ( molded type 30 mm )

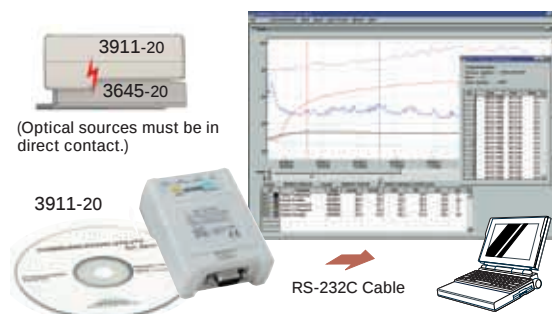
9637 RS-232C CABLE ( 9-pin to 9-pin crossover, 1.8 m )

9638 RS-232C CABLE ( 9-pin to 25-pin crossover, 1.8 m )

## Data Analysis and Processing on a PC

Use the 3911-20 COMMUNICATIONS BASE to transfer data to a PC.

16,000 data points ( 3641-20 HUMIDITY LOGGER ) are handled on 8 channels to transmit to a PC for analysis and processing.

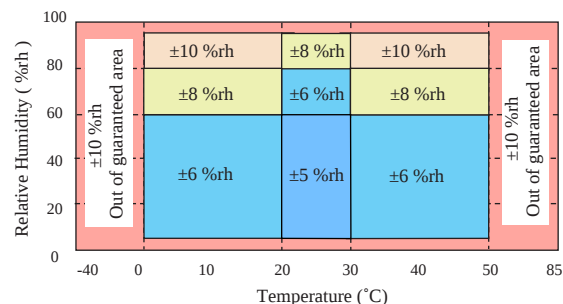


Settings made by communications software:  
Current time, recording intervals, recording start, recording type, comments

## ■ 3911-20 COMMUNICATION BASE Specifications

|                              |                                                                                                                      |
|------------------------------|----------------------------------------------------------------------------------------------------------------------|
| <b>Recording Capacity</b>    | Max. 16,000 data points $\times$ 8 ch                                                                                |
| <b>Communications method</b> | 3641-20 HUMIDITY LOGGER to 3911-20<br>Infrared Optical Communications<br>3911-20 to PC<br>RS-232C                    |
| <b>Power Supply</b>          | AAA-size alkaline batteries (LR03) $\times$ 4                                                                        |
| <b>Dimensions, mass</b>      | Approx. 69W $\times$ 92H $\times$ 36D mm<br>( 2.72W $\times$ 3.62H $\times$ 1.42D in ) /<br>Approx. 150 g ( 5.3 oz ) |
| <b>Accessories</b>           | PC communications software                                                                                           |
| <b>Compatible OS</b>         | Windows95/98/NT4.0/Me /2000/XP<br>(for DOS/V, PC98)                                                                  |

## ● 9680 HUMIDITY SENSOR ACCURACY TABLE 1



NOTE: The response time indicated are reference values for the time until 90% of the value is indicated for a given change in temperature or humidity. The temperature sensors are all thermistors and the humidity sensor 9680 has a polymer structure ( capacity type ).

## ● Abundant variations, Compact logger series

A variety of credit card-size compact loggers features multiple types of instrumentation (including as a voltage logger with preheating) and allows recording of temperature and humidity, various types of current, voltage pulses, and illumination levels. These powerful handy devices allow recording of large volumes of data (16,000 or 32,000 data points), provide recording intervals that can be set in 15 steps from 1 second to 60 minutes, and are equipped with data backup to protect against data loss when batteries are exhausted or being replaced. Get the benefits of ease of use and reliability, both in compact package.

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