

### Description

Regarding the protection class, MF-series iButtons are an improved version of the iButton® Temperature Loggers. They provide effective protection against surface moisture, various chemicals and are suited for continuous immersion. The protection class complies with IPX8 according to DIN EN 60529.

To improve the protection class of the iButton it is covered by a rugged and permanent resin coating. Top and bottom provide a notch to enable electrical contact to the iButton. A bracket with mounting hole to mount the unit to an object is also provided.

The permanent resin coating imparts the advantage of the small size of the iButton, however the short thermal response time of an unprotected iButton remains. With suitable accessories the iButton can be comfortably and easily read and programmed even under wet conditions. Compared to the protective encapsulation, the intricate and error prone procedure to place the iButton into the encapsulation and remove it again has been eliminated.

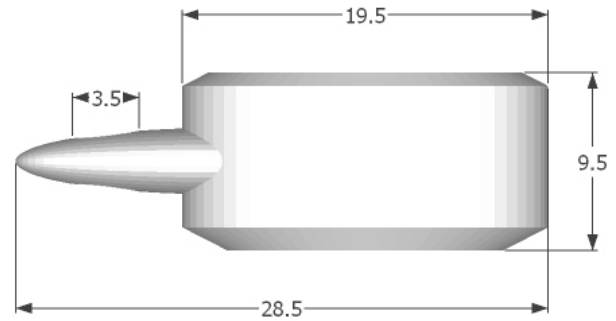
The material employed is an extremely durable and chemical inert resin. This allows an effective protection for the total life span and temperature range of the iButton.

For additional information regarding the protection class, please refer to the extended application instructions of this product. Technical information can be found on the corresponding iButton Temperature Logger data sheet.

### Anwendungen

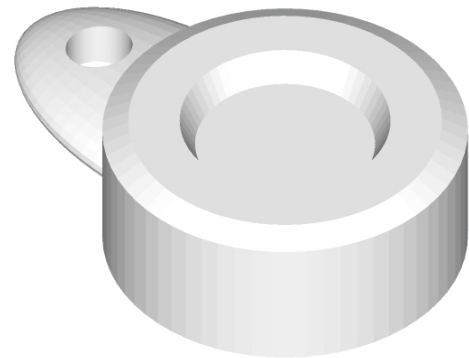
- Outdoor Temperature Monitoring
- Monitoring of Soil Temperature
- Temperature Monitoring in Liquids
- Research & Development

### Technical Drawing



All dimensions are in millimeters.

### 3D Drawing



### Examples of Accessories

Artikel	Beschreibung
DS9490R#	USB to 1-Wire Adapter
MF1402	Reader Unit for MF-series iButtons



## Absolute Maximum Ratings

Operating Temperature Range\*

-40°C to +85°C

\*Storage or operation above +50°C significantly reduces battery life.

Stresses beyond those listed under “Absolute Maximum Ratings” may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

## Specifications

Parameter	Conditions	MIN	TYP	MAX	Units
Weight			4.7		grams
Physical Dimensions		See technical drawing			mm
Water Resistance	24h at 23°C			3	bar
Temperature Change	(Note 1)			4	K/min
Thermal Response Time Constant	(Note 2)		45		s

**Note 1:** Fast changing environmental temperature, e.g if the product is repeatedly immersed into hot water without slow heat-up prior to immersion, it can lower the protection class of the product. A sustainable protection can only be achieved by staying within the recommended specifications.

**Note 2:** This value was derived from submerging a MF1922L into 55°C water. The initial temperature was 22.5°C. The response time constant of an unprotected iButton is approximately 30s. Do not drop an unprotected iButton into water or any other liquid.

## Applications Information

To get information into and out of an iButton of the MF-series you simply connect it to the reader unit MF1402 which can be obtained separately. The MF1402 is cabled to a 1-Wire adapter (e.g. DS 9490R) that is attached to a spare PC port. After successful connection, the iButton can be programmed or read-out by using an iButton software (e.g. OneWireViewer). Applications with heavy contamination may require cleaning of the upper- and bottom-side contacts of the iButton, prior to connecting the iButton to the reader unit.

**For pricing, delivery, and ordering information, please call +49 751 6 528 430 or visit our website at [www.mfelabs.com](http://www.mfelabs.com).**

**Revision History**

<b>Revision Date</b>	<b>Description</b>	<b>Pages Changed</b>
2018/09	Initial release.	—