The RDA01 evaluation unit is a component of the BARTEC water detection system. It operates in conjunction with the SCR sensor cable and/or the PS point sensor. Other components of the BARTEC water detection system are the RLW and RDW03 evaluation units, as well as accessories (see catalogue).

Description

The system quickly and reliably detects small leakages of liquid, producing a visual and acoustic alarm signal. At the same time, floating contacts are set for messages to the building management system (BMS) and for control tasks.

Safety instructions

The device may only be used within the specified ambient and operating temperature range. Use in areas other than those specified or the alteration of the product by somebody other than the manufacturer is not permitted and releases BARTEC from liability for defects and other liability. Malfunctions may result from incorrect installation. The generally applicable statutory regulations and other binding guidelines relating to occupational health and safety, accident prevention and environmental protection must be complied with. Applicable laws and guidelines must be complied with before commissioning or putting back into operation. The equipment may only be used in a clean, undamaged state. Modifications and changes are not permitted.

Marking

Particularly important points in these instructions are marked with a symbol:

⚠ DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

ⓘ NOTICE

NOTICE is used to address practices not related to personal injury.

ⓘ NOTE

Important instructions and information on effective, economical and environmentally compatible handling.

Compliance with standards

EN 61010-1, EN 60335-1, EN 61000-6-2, EN 61000-3-2, EN 61000-3-3, EN 61000-6-3, EN 60529

Mounting, installation and commissioning

⚠ WARNING

Risk of injury due to incorrect procedure.

- All work concerning mounting, dismantling, installation and commissioning may only be conducted by authorised qualified personnel.
- Pay attention to the type of installation (for installation /with connection enclosure).
- Use suitable tools.

Mounting/dismantling

The monitoring electronics are snapped onto a TS 35 top-hat rail inside the control cabinet.

Installation

Take the following into consideration when connecting conductors:

- Remove approx. 6 mm (0.236 in) of the conductor insulation on the cores.
- Prepare the conductor ends of stranded and finely stranded conductors: use a suitable crimping tool to fasten wire end ferrules.

  Connection cross-sections: 0.5-2.5 mm² (21-14 AWG)
- Release terminals.
- Insert conductor.
- Tighten terminals to a maximum torque of 0.7 Nm.

Terminal assignment: see the following page

ⓘ NOTICE

- Care must be taken when mounting the PS point sensor that the electrodes are clean and free from grease. This is achieved by cleaning with methylated spirits or a household detergent with fat solvent.
- The mounting and installation instructions for the SCR sensor cable must be observed. (www.bartec.de)

Commissioning

A suitable overcurrent protection mechanism must be provided in the power supply of the device and labelled with the name of the device. This also serves as a separator, for all poles, and must be easily reachable for the user.

ⓘ NOTICE

Loss of function due to incorrect procedure.

- All maintenance and troubleshooting work may only be carried out by authorised qualified personnel.
- Directive 2014/35/EU must be taken into consideration.

Check the following before commissioning:

- Device has been correctly installed.
- Device is undamaged.
- Connection has been carried out correctly (check that the cores are secure).

Care must be taken when mounting the PS point sensor that the electrodes are clean and free from grease. This is achieved by cleaning with methylated spirits or a household detergent with fat solvent.

ⓘ NOTE

Water leakages are detected quickly in accordance with the volume and the conductivity of the leaked liquid. The SCR sensor cable has the shortest reaction time with at least a complete point by point cover (approx. 5 mm). For reasons of its geometry, the PS point sensor requires the leaked liquid to have a minimum height (see the PS point sensor data sheet for details).

Design measures must be introduced to keep conductive substances that are not to be detected away from the sensor (e.g. rainwater, splashing water, condensate etc.).

ⓘ NOTICE

The presentation of a correctly prepared and completed acceptance report is essential for warranty claims. This must include date and signature.

Leakage test

- Immerse the PS point sensor approx. 5mm or the SCR sensor cable approx. 10 cm in the expected leaked liquid (or water).
- The 'Alarm' LED lights up after approx. 10 secs
- Buzzer is active and floating contact switches
- Dry the PS point sensor or SCR sensor cable
- Press 'RESET' button
- 'Operation' LED lights up

System is in monitoring mode

Open circuit test

- Briefly remove the terminal resistance on the last PS point sensor or at the end of the SCR sensor cable and then reconnect it
- 'Break' LED lights up
- Buzzer is active and floating contact switches
- Press 'RESET' button
- Operation' LED lights up

System is in monitoring mode

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Sensitivity

The sensitivity of the sensor can be influenced in two different ways:

a) "Sensitivity" potentiometer on the front of the enclosure

b) "Termination resistance" selector switch on the side wall of the enclosure must be set to the termination resistance on the end of the sensor. Factory setting: 220 kΩ

Transport, storage

NOTICE

Damage to the device caused by incorrect transport or incorrect storage.

- Transport and storage only permitted in the original packaging.

Maintenance and troubleshooting Water detection system

DANGER

Disconnect the device from the power supply before work on the wiring.

The company operating the device must maintain it in a proper condition, operate it correctly, monitor it and clean it regularly.

The PS point sensor and SCR sensor cable themselves are maintenance-free.

- Care must be taken when mounting the PS point sensor that the electrodes are clean and free from grease
- By means of suitable inspection intervals in line with the degree of contamination or the amount of dust to be expected, it is necessary to ensure that the electrodes of the PS point sensor and of the SCR the sensor cable are kept clean and free from grease. This is achieved by cleaning with methylated spirits or a household detergent with fat solvent.
- Plug-in connections on the installation route must be installed so that they are protected against moisture. When monitoring surfaces, the customer should use spacers on the floor for this purpose.

A recurring inspection of the monitoring electronics is fundamentally not necessary because the electronics are self-monitoring.

NOTICE

BARTEC recommends a system inspection at least once a year. The countermeasures introduced when detecting a leak must be adjusted in terms of weighting and reaction speed to the damage to be averted. The operator must clarify insurance requirements (building, liability etc.), for example inspection intervals, scope of inspections, training of the operating staff.

WARNING

Serious accidents due to damaged components.

- Inspect the device and cables regularly for cracks, damage and to check that connections are secure.

NOTICE

Damage to the device due to incorrect cleaning.

- Do not use compressed air to clean soiled RDA01 monitoring electronics.

Troubleshooting

WARNING

Serious accidents due to the failure to use original spare parts.

- Only replace parts with original parts.

Faulty devices can be repaired. They must be replaced in line with these Operating Instructions.

Accessories, spare parts

NOTE

The monitoring electronics require a terminal resistance (05-0080-0164) in the last PS point sensor (factory installed) or at the end of the SCR sensor cable.

See the BARTEC catalogue for further accessories and spare parts.

Disposal

The components of the BARTEC water detection system contain metal and plastic parts.

Statutory requirements for electronic waste must therefore be complied with during disposal (e.g. disposal by an approved disposal company).

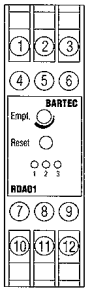
Service Address

BARTEC GmbH
Max-Eyth-Str. 16
97980 Bad Mergentheim
Germany

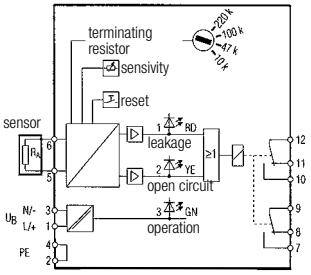
Phone: +49 7931 597 0

info@barte.de
www.bartec.de

Terminal assignment

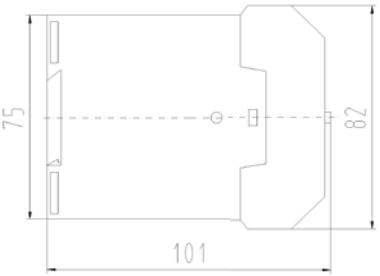


Connection/Function



Presented condition: operation/no leakage

Dimensions in mm



Module wide: 22.5 mm

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Technical data

Achievement	Snap-on housing for mounting rail TS 35
Dimensions (W x H x D)	22.5 mm x 82 mm x 101 mm
Inputs	power supply Type 2322: AC 230 V/50 to 60 Hz/2.4 VA Type 2422: DC 24 V/0.6 W sensor via two-wire lead sensor cable length: max. 1 000 m point sensors: max. 50 pcs.
Outputs	common alarm relay, 2 changeover contacts 0.25 A at AC 230 V/1 A at DC 24 V
Memory	alarm/fail safe memory
Method of measurement	conductive (conductive liquids > 2 µS/cm)
Self-monitoring	sensor rupture and power failure
Operating elements	reset button
Signal	optical: LED-displays for operation/alarm/open circuit acoustic: piezoelectric buzzer
Ambient temperature	-25 °C to +60 °C
Protection class	IP 20
Signal	alarm: LED red (1), open circuit: LED yellow (2), operation: LED green (3)

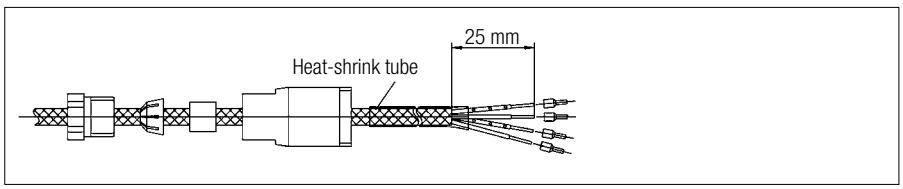
Technical data plug/socket

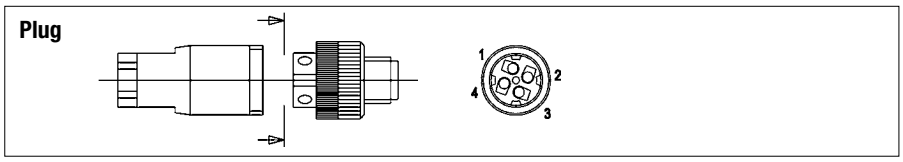
Wire gauge	0.25 mm²/0.75 mm²
Cable outlet	Pg 7, max. 6 mm
Dimensions	max. length 60 mm, max. ∅ 20 mm
Material of shell	PA
Flammability acc. UL-94	V-2
Operating temperature	- 40 °C to + 85 °C

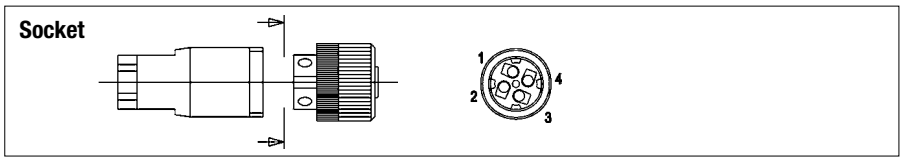
Assembly instruction

Plug/socket for connection cable and SCR sensor cable:

Connection Sensor cable	plug/socket	connection splicing
Wire white with perforation	terminal 1	wire 1
Wire white	terminal 2	wire 2
Wire red with perforation	terminal 3	wire 3
Wire red	terminal 4	wire 4







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EU Konformitätserklärung
EU Declaration of Conformity
Déclaration UE de conformité

Nº 11-85F4-7C0001

BARTEC GmbH
Max-Eyth-Straße 16
97980 Bad Mergentheim
Germany

Wir	We	Nous
BARTEC GmbH,		
erklären in alleiniger Verantwortung, dass die Produkte **Überwachungselektronik RDA01, RDW03**	declare under our sole responsibility that the products **Electronic monitoring RDA01, RDW03**	attestons sous notre seule responsabilité que les produits **Electronique de supervision RDA01, RDW03**
17-85F4-2*/**** , 17-85F3-8322/****		
auf die sich diese Erklärung bezieht den Anforderungen der folgenden **Richtlinien (RL)** entsprechen **NS-Richtlinie 2014/35/EU** **EMV-Richtlinie 2014/30/EU** **RoHS-Richtlinie 2011/65/EU**	to which this declaration relates is in accordance with the provision of the following **directives (D)** **LV -Directive 2014/53/EU** **EMC-Directive 2014/30/EU** **RoHS-Directive 2011/65/EU**	se réfèrents à cette attestation correspond aux dispositions des **directives (D)** suivantes **Directive BT 2014/53/UE** **Directive CEM 2014/30/UE** **Directive RoHS 2011/65/UE**
und mit folgenden Normen oder normativen Dokumenten übereinstimmen	and is in conformity with the following standards or other normative documents	et sont conformes aux normes ou documents normatifs ci-dessous
EN 61010-1:2010 **EN 60335-1:2012** **EN 60529:1991 +A1:2000 + A2:2013**	**EN 61000-6-2:2005** **EN 61000-3-2:2014** **EN 61000-3-3:2013** **EN 61000-6-3 :2007 + A1:2011 + AC:2012**	
Verfahren der internen Fertigungskontrolle	**Procedure of internal control of production**	**Procédure de contrôle interne de fabrication**

CE

Bad Mergentheim, den 12.02.2018

i.V. Michael Wittmann
Produktmanagement
Wärmetechnik

i.V. Gitta Kugler
Director Global Test,
Certification & IP Management

03-0383-0366

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Customer

Commission number

Project

Building

Item	Installed **cable length** in metres	Measured **insulation resistance** in MΩ between conductors 1 and 3 **before installation**	Measured **insulation resistance** in MΩ between conductors 1 and 3 **after installation***	Measured **insulation resistance** in MΩ between conductor 1 to ground conductor 3 to ground**		**Volume resistance** in Ω between conductors 1 and 2 conductors 3 and 4*		Calculated **volume resistance** in Ω/m **	Date of test/ test engineer
				conductor 1	**conductor 3**	**conductor 1 and 2**	**conductor 3 and 4**		
1									
2									
3									
4									

* (measured with end plug), measurement section: sensor cable with incoming feed line
** (measured resistance of conductors 1 and 3 in Ω/installed cable length = calculated resistance in Ω/m)

Conductor 1 = contact 1 = wire white with perforation
Conductor 2 = contact 2 = wire white insulated
Conductor 3 = contact 3 = wire red with perforation
Conductor 4 = contact 4 = wire red insulated

Note
The sensor cable must be checked during assembly also. When checking, disconnect the sensor cable from the monitoring electronics.

Test tolerance for the measurements
Volume resistance in Ω: min: 5.7 Ω/m, max: 6.3 Ω/m
Insulation resistance in MΩ: not less than 10 MΩ per entire measuring circuit (at a test voltage of 500 V)

Stamp/signature of installation company

All warranty claims are subject to the submission of a correctly and completely filled-in acceptance report.
Date and signature are also required.

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Start-up protocol WaterWarningSystem

Customer/final customer	
Order number	
Date	
Monitoring unit type, production number	
Software version	
Incoming cable type, length	
Connected sensor 1 type, length, room	
Connected sensor 2 type, length, room	
Others	

Function test

Alarm/leakage test	
Rupture test	
Floating alarm contacts	
Floating fault contacts	
Internal buzzer	

Note

Result

After excution of the tests/measurements the system operated with/without insufficiencies and restrictions (see notes).

Above information checked:

Place, date | Company/signature auditor | Company/customer signature

All warranty claims are subject to the submission of a correctly and completely filled in acceptance report.
Date and signature are also required.

Service Address

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