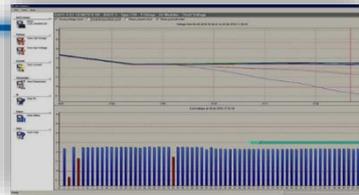
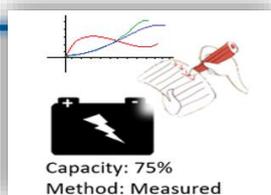
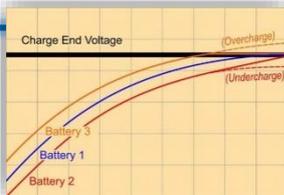
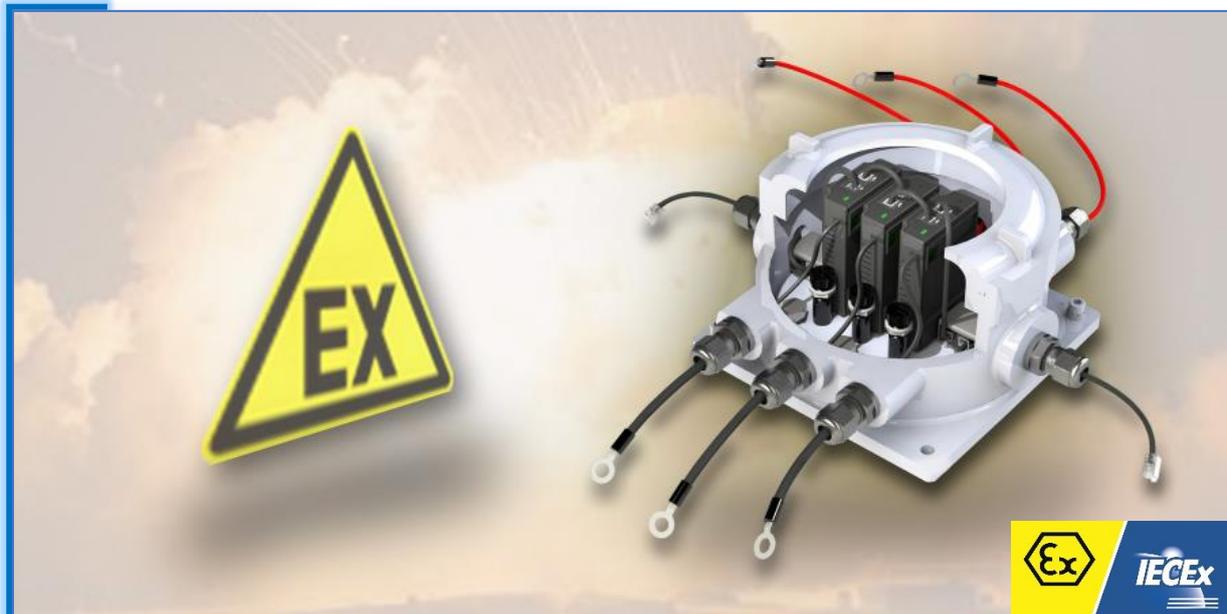


ATEX / IECEx certified BACS® for EX Environment Zone 1/21 and 2/22



extra capacity

extra service life

**Data Sheet**

**BACS ATEX C20ex3/C30ex3/C40ex3**

**Zone 1 / 2**

**Zone 21 / 22**

**Certified according to ATEX and IECEx**

*Protection Type: ATEX*

II 2G EX db IIC T5 Gb  
 II 2D EX tb IIIC T100°C Db

ATEX Certificate Number: 18ATEX0119X

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*Protection Type IECEx*

EX db IIC T5 Gb

IECEx Certificate Number: DEK 18.00.75



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ATEX / IECex certified BACS® for EX Environment Zone 1/21 and 2/22

***BACS is the most successful and powerful system for stationary battery systems, all connected devices for power supply and sensor technology in battery and UPS rooms.***

BACS® is the safest battery management system on the market, able additionally to monitor and manage the surrounding infrastructure. BACS® starts with measurement results from the direct environment of a battery such as voltage, impedance, temperature, humidity, acid level, hydrogen gas concentration, pressure, etc. BACS® can additionally take control of external hardware such as complex climate control systems and emergency venting, if required. Even sensors and contacts to and from third-party systems can be reliably managed by BACS®, allowing it to integrate with fire alarm systems, for example. BACS also interfaces with all types of UPSs, inverters, transfer switches, generators, and other equipment powered by batteries. What's more, BACS® can transparently integrate into all kinds of network structures such as BACnet, SNMP or MODBUS and optionally also into other fieldbuses and adapt to existing safety guidelines.

*BACS maintains an assured and competent overview even in a complex emergency situation.*

Similar to a programmable logic controller (PLC), BACS® (and the CS141) can be programmed to manage automatic emergency procedures. Core functions here include management of third-party devices (other UPS SNMP cards or other sensors), active on-site emergency management, and a comprehensive emergency notification system that provides all necessary information immediately when needed so that crisis response teams can react as quickly as possible.

**BACS delivers improved economics and safety and is not a "luxury" like battery monitoring systems - this is largely due to "balancing":**

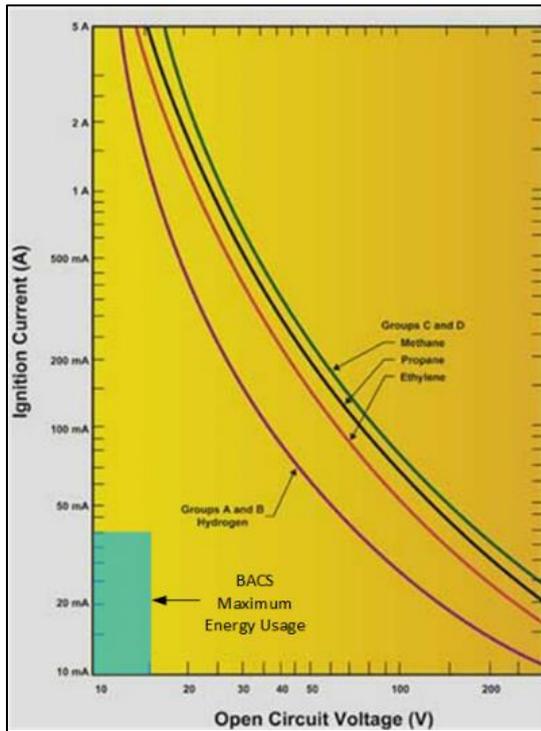
To optimize charging behavior, BACS® relies on our self-developed passive control method - known as "Equalizing" in Europe and "Balancing" worldwide. This allows the charging voltage of all batteries to be kept within the optimal values specified by the battery manufacturer. **This control has a massive influence on the behavior of the batteries and thus on the cost and reliability of the entire system.**

**The lifetime of all batteries is the costly part of any battery based UPS solution:** If one battery fails, then usually **all** batteries have to be replaced. The lifetime of such a battery network in a UPS is 50-60% of the stated design life of battery manufacturers. This unacceptably short lifetime can be improved enormously by Equalizing/Balancing. With this technique, each individual battery is kept at the optimal voltage level to avoid overcharging or undercharging. The main reason for premature failure of batteries in stationary systems is thus eliminated. That this has an additional improvement in the capacity of a battery system is a welcome side effect, and verifiable: capacity measurements of end customers have shown that systems using BACS have up to 20% higher capacity compared to comparative systems without BACS batteries. The reason for this is simply explained: batteries that are not undercharged reach 100% capacity and now provide this increased power during a capacity test.

BACS® has been proven to extend the service life of all batteries in high voltage string applications, so that the specified Design Life can actually be achieved. This is something that no Battery Monitoring System can do. A monitoring system can only display data, and has no economic effect and is therefore a pure "luxury" that increases the actual costs - without any positive effect on safety or improvement in costs.

BACS® can be integrated into any network, and independently collects all operationally relevant values with regards to voltage, temperature, internal resistance, etc.. In addition, BACS® can actively control the individual charging behavior for each battery or even each cell within a battery string of UPS storage systems and **determine the capacity**. Where other systems have to cumulate laboriously and round up or down or estimate, BACS can use a better calculation basis because of balancing and thus achieve equivalent capacity measurements without costly additional measurement technology. BACS is the ideal system for all types of lead/NiCd acid batteries (open / wet cells, maintenance free, gel, AGM etc.) and also for most types of Li-ion batteries.

**ATEX / Intrinsic safety during regular operation**



Due to very high safety regulations, the oil and gas industry insists on special protective measures against flying sparks or overheating as soon as IT-related systems have to be operated within the danger zone of potentially highly explosive gases. Since some of these systems must not fail in an emergency, UPS solutions for emergency power supply are often used for protection purposes.

A battery management system in the EX area (explosion-proof area) should therefore - just like the UPS - be able to prove certification according to ATEX in order to be allowed to operate in such environments. **However, such an ATEX certificate is not attainable as soon as a battery is used - because a battery as a hydrogen source may not be used in the EX area at all, since it can generate a spark or even an arc in the event of a short circuit.** I.e. although a battery sensor may be ATEX tested, the validity expires as soon as the sensor is applied to a battery which itself cannot be ATEX safe. This absurdity is not clear to many users and they insist on a certificate for the battery sensors although this actually expires automatically as soon as it is used on batteries.

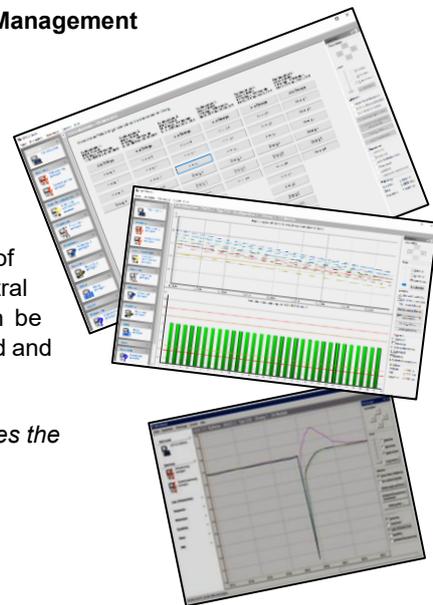
For this reason, we solve the problem with a different approach: We call our BACS sensor "Intrinsically Safe" - because the potential for the generation of a spark that can

cause gas to ignite cannot be applied to our system. The drawing above left shows the currents and voltages allowed for the respective gas group where an explosion can occur. All units below the respective curve are considered "Intrinsically Safe". BACS is well below this critical range and it is therefore not possible in normal operation to generate an ignition spark which could lead to an explosion.

**The BACSViewer – A Complimentary Tool for Professional Battery Management**

The unique BACS® VIEWER software can do more than simply "fetch" data from the Manager and free local memory for data logging.

The BACS® VIEWER software is a powerful program to analyze and archive battery data of a BACS system. It integrates additional documents such as drawings, reports, warranty certificates, maintenance schedules, handouts for technical staff and facilitates the management of many BACS systems and thus thousands of batteries with one central software. With the BACS® VIEWER software, maintenance tasks can be scheduled, battery trends can be determined, faulty batteries are detected and status reports are generated automatically.

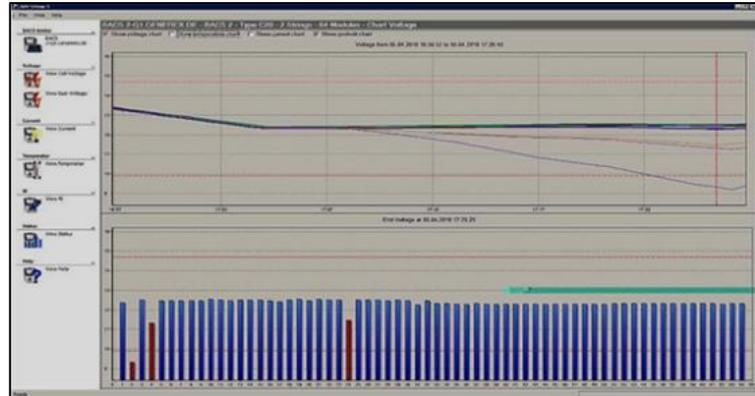


*Battery chemistry irregularities are harbingers of a problem - BACS makes the "battery" gray area a thing of the past for system-critical applications!*

*Example: Detecting a defective battery*

The BACS® VIEWER shows the individual battery voltage of all accumulators at the end of a discharge.

The red dotted line shows the voltages when power has returned. The lower bar graph indicates those accumulators which have collapsed early and have been discharged to a very low level. These batteries are a risk to the entire system.



With this important information, it is possible to plan a targeted replacement of damaged batteries – without such detailed information as provided by BACS® all batteries will have had to be replaced, which means a long down time and enormous extra costs associated with otherwise unnecessary replacement units.

**Aufbau des ATEX BACS Gehäuse**

**Structure of the ATEX BACS housing**

The ATEX BACS housing differs from the classic BACS installation. The main differences are an external temperature sensor integrated in the BACS measuring cable, fuses integrated in the housing and 3 modules per housing.

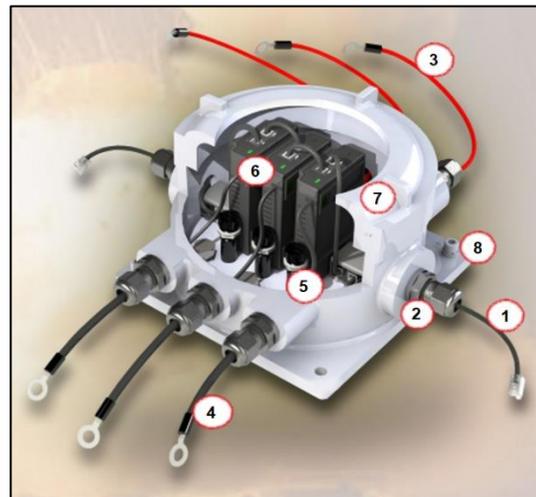
**1.**Connection cable BACS bus. These connection cables are used for BACS bus communication with the neighboring BACS ATEX module (or with the BACS WEBMANAGER / SPLITTINGBOX which is usually outside the hazardous area). The bus cables are either assembled on site to the desired length by the installer, or can be ordered pre-assembled in different lengths. The cables must be routed through the screw terminal (2) by the installer and sealed by tightening the screw.

**2.**ATEX Cable Gland terminal with seal: After inserting the BACS bus cable, tighten the screw terminal - the integrated seal will wrap around the cable and thus seal it gas-tight.

**3.**Cable to battery positive pole (RED) : This connects the first of the 3 positive battery poles. The other remaining red measuring cables are connected to the 2nd and 3rd battery at the positive pole. The red cables are individually adaptable and can be shortened to the desired length by the installer and fitted with new cable lugs.

**4.**Cable connector negative pole (black): This is used to connect the first of the 3 negative battery poles. The other remaining black measuring cables are connected to the negative pole of the 2nd and 3rd battery. These cables are slightly thicker than the red positive cables because a temperature sensor has been incorporated into the cable lug.

**5.**BACS module fuse: The 2 fuses associated with each BACS module are located on the main circuit board and can be replaced if necessary.





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**6. BACS module :** Each C20ex3xxxx can hold up to 3 BACS modules. Each BACS module is connected to a BACS bus cable (as a ribbon cable) and the 1st and 3rd module is connected to the next BACS ATEX housing (or to the BACS WEBMANAGER or SPLITTINGBOX outside the hazardous area) via the BACS bus cable and the screw terminal.

Each BACS module has the identification number ID 0 on delivery - this still has to be configured. Please read the BACS addressing guide in this manual which explains the addressing procedure.

**7. Screw cover with viewing window:** Once the addressing and wiring has been completed, the screw cover can be closed and the locking screw tightened. The housing is then ready for use within ATEX zones 1 and 2 and can be put into operation.

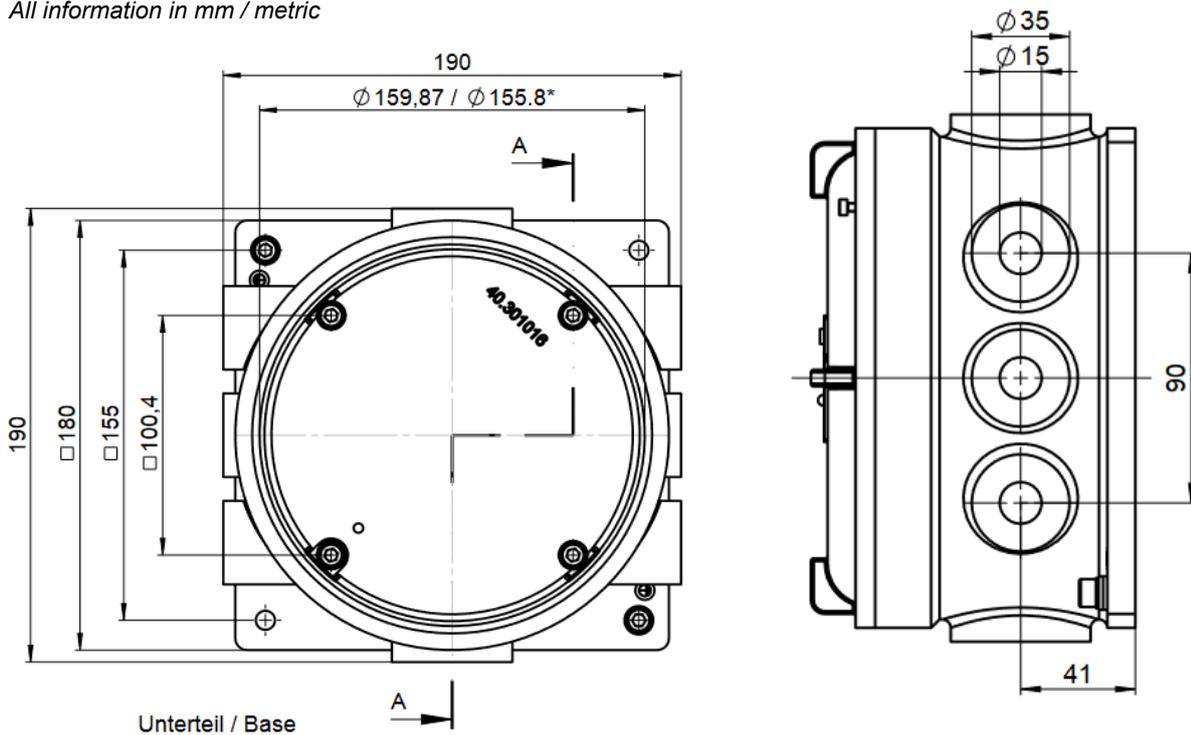
**8. Mounting holes for stationary attachment and grounding:** The BACS module can be attached to the battery rack, wall or other location and grounded using these 4 mounting holes.

**The ATEX housing:**

Be sure to observe the regulations and drawings for ATEX zones 1/2 and 21/22. The housing must not be installed in zone 0 or 20. Ensure sufficient distance to the corresponding danger zone.

*Housing: TBE 160TW*

*All information in mm / metric*



Weight: 3,9 kg

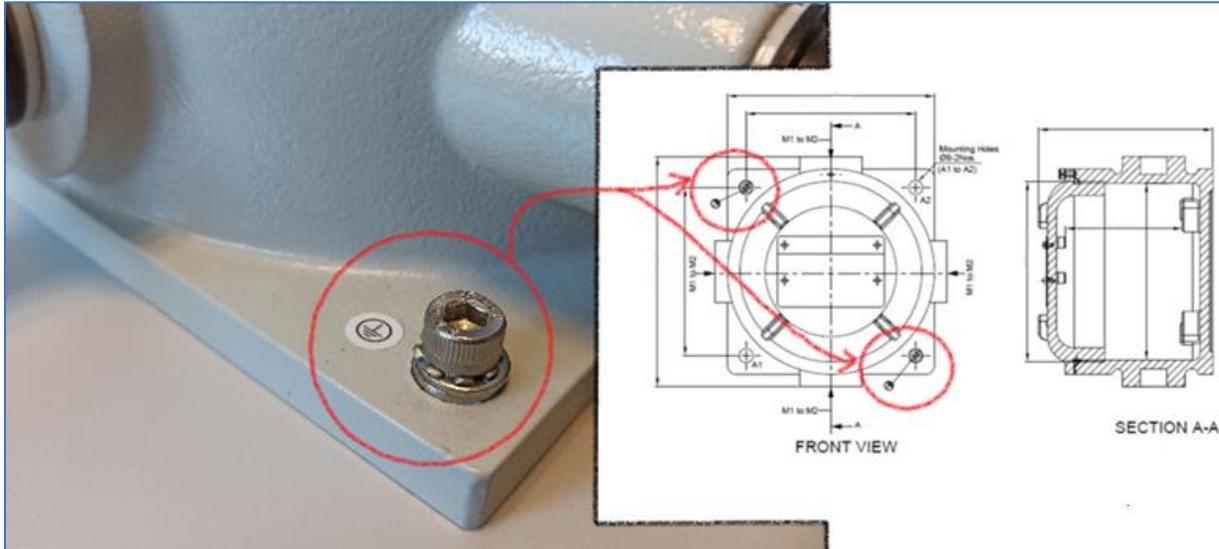
Dimension: 300mm \* 300mm \* 140mm, measured including cable gland and protective cap

|   |  |             |             |
|---|--|-------------|-------------|
| <p>ROSE Systemtechnik GmbH<br/>D-32457 Porta Westfalica</p> | <p><b>Ex db IIC T5 Gb -20°C ≤ Ta ≤ +55°C</b></p> |             |             |
|   | <p>Type: TBE 160TW</p>                           | <p>41 W</p> | <p>IP66</p> |
| <p>DD.MM.YY</p>   | <p>00000000</p>                                  |             |             |
| <p>DEKRA 18ATEX0119X</p>                                    | <p>IECEX DEK 18.0075S</p>                        |             |             |
| <p>WARNING - DO NOT OPEN WHEN ENERGIZED</p>                 |  |             |             |

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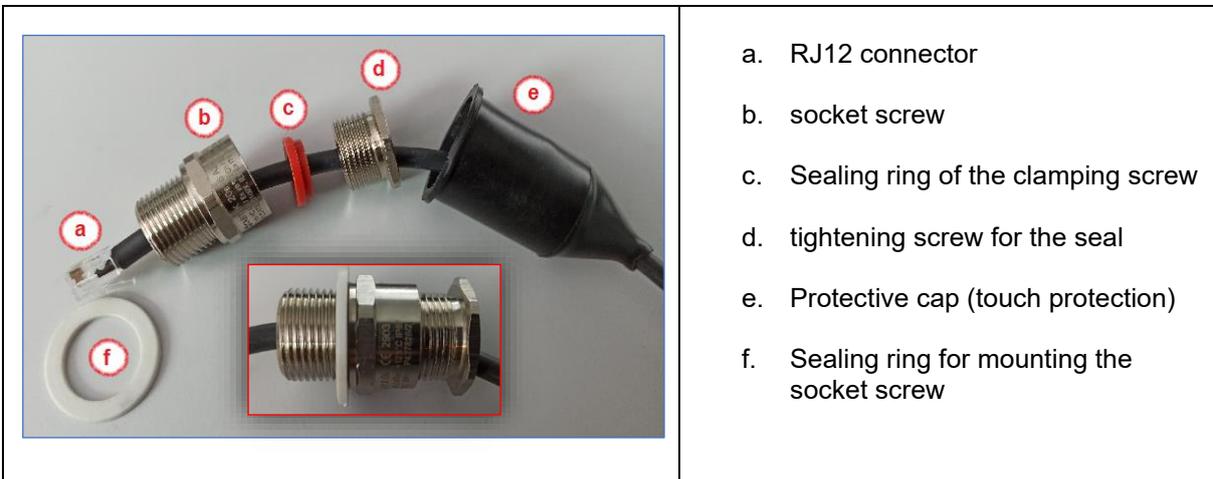
*Multiple grounding ports*

*Easily accessible ground points allow extensive grounding to effectively prevent electrostatic discharge.*



*Sealing gem ATEX / EX-i*

All wired inputs and outputs are sealed according to EX-I and ATEX requirements.



- a. RJ12 connector
- b. socket screw
- c. Sealing ring of the clamping screw
- d. tightening screw for the seal
- e. Protective cap (touch protection)
- f. Sealing ring for mounting the socket screw



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*Factory pre-assembled cables*

Pre-assembled cables have the advantage that the seals are already installed. These cables can be installed directly on the housing. The BACS bus cables for the connection between two housings have a pre-installed seal on both cable ends in front of the connector.



*Blind plugs*

According to the ATEX specification, the blind plug are included to seal open ends.





ATEX / IECex certified BACS® for EX Environment Zone 1/21 and 2/22

**Technical data**

General technical data: CS141 / BACS HW161 Webmanager Product family



| CS141 PRODUCT SERIES GENERAL OPERATING DATA |  |
|---|--|
| Processor and memory                        | ARM Cortex A8 800MHz CPU, 8GB storage for battery history.   |
| Operating condition                         | Temperature 0 - 60°C, max. humidity 0 - 90%, non-condensing  |
| MTBF (calculated)                           | 849192 hours; 96,9 years   |
| corresponds to RAL 7035 Power consumption   | At 12V default power supply consumption approx. 150mA. Note: At BACS a CONVERTER is included.  |
| MTBF (calculated)                           | 849192 hours; 96,9 years   |
| maximierenDisplay                           | 2x LED (Manager status, UPS/device alarm)  |
| External BACS kit CS141 housing             | ABS, corresponds to RAL 7035 (light grey) CE, UL 94/NEMKO certified flame retardant  |
| SLOT BACS kit CS141 housing                 | Slot card "SC format" for UPS devices witch compatible slots<br>UL- Certification  |
| BACS Webmanager Budget housing              | Aluminum, RAL 7035 (light gray) UL/NEMKO certificated – or – ABS 94/NEMKO certified flame retardant with integrated DIN Rail   |
| Number of possible BACS modules             | The Standard Power supply (2000 mA) grants power for up to 360 BACS C modules. For up to 512 modules and sensors, ask for larger power supply.   |
| Operation altitude range                    | 0m – 4000m   |
| Operating maintenance                       | Removal of dust and dirt in regular terms is required, beside this, the BACS WEBMANAGER, measuring cables and the BACS modules do not need any maintenance work. There is no internal battery used that need maintenance or replacement. |
| BACS GENERAL STORAGE DATA                   |  |
| Temperature range                           | -55°C – 70°C   |
| Humidity range                              | 0% -90% in non condensing environments   |
| Storage altitude range                      | 0m – 4000m   |
| Particular additional information           | Open storage in heavily sooty or dusky storage conditions or environments with sediment deposits can have a negative effect. Acidic or similar aggressive atmospheric environmental conditions may also affect long-term storage         |
| Storage Maintenance                         | The BACS WEBMANAGER, measuring cables and the BACS modules do not need any maintenance work during storage. There is no internal battery used that need maintenance or replacement   |



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**BACS kit product bundle differences to general data:**

|  |  |
|--|--|
|  <p><b>CL N US</b><br/>60950</p> <p><b>CE UK CA</b></p>   | <p><b>BACS® WEBMANAGER BUDGET SC (slot version)</b><br/>Order No. BACSKIT_BSC4</p> <p>Interfaces</p> <p>3x RS-232 interfaces, (COM1= UPS/power device, COM2 =Multipurpose, COM3=BACS battery bus)<br/>1x RJ12 for battery bus converter<br/>1x RJ45, 10/100Mbit Ethernet</p>             |
|  <p><b>CL N US</b><br/>60950</p> <p><b>CE UK CA</b></p>   | <p><b>BACS® WEBMANAGER BUDGET SC MINI (Mini Slot Version)</b><br/>Order No. BACSKIT_BSC4</p> <p>Interfaces</p> <p>1x RJ12 Multiport for accessories and battery bus converter<br/>1x Spitting Port cable for simultaneous use</p> <p>1x RJ45, 10/100/ 1000Mbit Ethernet</p>              |
|  <p><b>CL N US</b><br/>60950</p> <p><b>CE UK CA</b></p>  | <p><b>BACS® WEBMANAGER BUDGET L</b><br/>Order No. BACSKIT_LB4</p> <p>Interfaces</p> <p>3x RS-232 interfaces, (COM1= UPS/power device, COM2 =Multipurpose, COM3=BACS battery bus)<br/>1x RJ12 for battery bus converter<br/>1x RJ45, 10/100/ 1000Mbit Ethernet</p>                        |
|  <p><b>CL N US</b><br/>60950</p> <p><b>CE UK CA</b></p> | <p><b>BACS® WEBMANAGER BUDGET SCM RS485 (slot version)</b><br/>Order No. BACSKIT_SCMB4</p> <p>Interfaces</p> <p>2x RS-232 interfaces, (COM1= UPS/power device, COM3=BACS battery bus), 1 * RS485 = COM2<br/>1x RJ12 for battery bus converter<br/>1x RJ45, 10/100/ 1000Mbit Ethernet</p> |
|  <p><b>CL N US</b><br/>60950</p> <p><b>CE UK CA</b></p> | <p><b>BACS® WEBMANAGER BUDGET LM RS485</b><br/>Order No. BACSKIT_LMB4</p> <p>Interfaces</p> <p>2x RS-232 interfaces, (COM1= UPS/power device, COM3=BACS battery bus), 1x RS485<br/>1x RJ12 for battery bus converter<br/>1x RJ45, 10/100/ 1000Mbit Ethernet</p>                          |



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**BACS WEBMANAGER BUDGET differences to general data:**

|   |   |  |
|---|---|--|
|    | <p><b>BACS® WEBMANAGER BUDGET - 12V</b><br/>Order No. BACSKIT_B4</p>          |  |
|    | <p>Interfaces</p>   | <p>3x RS-232 interfaces, (COM1= UPS/power device, COM2 =Multipurpose, service port for Windows BACS READER and PROGRAMMER software)<br/>USB<br/>2x battery bus converter outputs internal<br/>1x RJ45, 10/100Mbit Ethernet<br/>1x potential-free contact<br/>(2 pole screw wire size 1,0 mm<sup>2</sup>, rated load 24 VDC /1A</p>   |
| <p>Dimension<br/>Weight</p>   | <p>Dimension<br/>Weight</p>   | <p>130 x125 x 30mm = 5,12 x 4,92 x 1,18 in. (W x L x H)<br/>Aluminium 360g / ABS housing 238g</p>  |
|    | <p><b>BACS® WEBMANAGER BUDGET - 18V-72V</b><br/>Order No. BACSKIT_B4</p>      |  |
|    | <p>Interfaces</p>   | <p>3x RS-232 interfaces, (COM1= UPS/power device, COM2 =Multipurpose, service port for Windows BACS READER and PROGRAMMER software)<br/>USB<br/>2x battery bus converter outputs internal<br/>1x RJ45, 10/100Mbit Ethernet<br/>1x potential-free contact<br/>(2 pole screw wire size 1,0 mm<sup>2</sup>, rated load 24 VDC /1A</p> <p>130 x125 x 30mm = 5,12 x 4,92 x 1,18 in. (W x L x H)<br/>Aluminium 360g / ABS housing 238g</p> <p><b>Technical data: TRACOPOWER TCL 024-112DC</b></p> <p>Input<br/>Output<br/>Notes</p> <p>18V – 72V DC<br/>12V 2000mA DC stabilized up to 390 BACS Modules<br/>Input safeguarding fuse (recommended circuit breaker 6-16A / characteristic C) is not included.</p>  |
|    | <p><b>BACS® WEBMANAGER BUDGET - 90V-375V</b><br/>Order No. BACSKIT_B4_375</p> |  |
|   | <p>Interfaces</p>   | <p>3x RS-232 interfaces, (COM1= UPS/power device, COM2 =Multipurpose, service port for Windows BACS READER and PROGRAMMER software)<br/>USB<br/>2x battery bus converter outputs internal<br/>1x RJ45, 10/100Mbit Ethernet<br/>1x potential-free contact<br/>(2 pole screw wire size 1,0 mm<sup>2</sup>, rated load 24 VDC /1A</p> <p>130 x125 x 30mm = 5,12 x 4,92 x 1,18 in. (W x L x H)<br/>Aluminium 360g / ABS housing 238g</p> <p>The power supply provides 1960mA are for up to 392 BACS C modules and other BACS components.</p> <p><b>Technical data: TRACOPOWER TPCL 030-112DC</b></p> <p>Input<br/>Output<br/>Notes</p> <p>90 – 375V VDC or 85 - 264VAC<br/>12V 2200mA DC stabilized up to 390 BACS Modules<br/>Input safeguarding fuse (recommended circuit breaker 6-16A / characteristic C) is not included.</p> |



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In 2022, also available: The BACS Kit "LC" (Low Cost)



- **Special Design for smaller systems with up to 6 KVA**
  - o Prepare your UPS / SOLAR system for the next generation battery management
  - o Simply Start managing your batteries how it ever should be done
  - o No hidden "pay-per use" for new functions.
- **Benefit from all BACS features for up to 24 batteries**
  - o Use all professional BACS features
  - o Benefit from the advanced technical support
  - o Use all professional modules available for BACS
- **Scalable by design:**
  - o No new basic hardware required
  - o Use the upgrade capabilities to expand your system as needed
  - o Just enter a serial key unlock the full UPS list

As "LC" available products:

| Order No                                | Product is identical to   | Limitation overview   |
|---|---|---|
| BACS WEBMANAGER B4LC                    | BACSKIT B4  | <ul style="list-style-type: none"> <li>- Up to 24 batteries</li> <li>- Up to 6 KVA Ups</li> </ul>           |
| BACS WEBMANAGER CS141 BSC4LC            | BACSKIT_BSC4  |   |
| BACS WEBMANAGER CS141 BL4LC             | BACSKIT_BL4   |   |
| BACS WEBMANAGER CS141SCMB4LC            | BACSKIT_SCMB4   |   |
| BACS WEBMANAGER CS141SCMB4LC with RS485 | BACSKIT_SCMB4 / RS485   |   |
| BACS WEBMANAGER CS141LMB4LC with RS485  | BACSKIT_LMB4 / RS485  |   |
| <b>LICENCE Upgrades</b>                 |   |   |
| BACSCSLCUPG                             | <i>License: Converts all LC Editions into a fully qualified BACS system</i> | <ul style="list-style-type: none"> <li>- Unlocks all limitations</li> <li>- Software License key</li> </ul> |

**BACS All-In-One - Solution:**

|  <b>SITEMANAGER 6</b><br>Order No. SITEMAN_6 |  |
|---|--|
| Processor and memory  | ARM Cortex A8 800MHz CPU, 30 MB storage for battery history<br>Non-volatile memory for alarm notification after power loss                                 |
| Power consumption   | 40 watts max.  |
| Interface   | RS-485 interface for other devices / Adapter for RS232 support   |
| Inputs  | 8 digital inputs (opened / closed configurable)<br>8 analog inputs (0 - 10V, 4 - 20mA, 0 - 20mA configurable via jumpers)<br>2 x RJ10 for BACS battery bus |
| Outputs   | 8 relay outputs (changer, max. 230V/ 4A AC/DC)   |
| Network   | 10/ 100/ 1000Mbit LAN  |



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|                     |  |
|---------------------|--|
| Supported protocols | Email, HTTP/HTTPs, SNMP, SNTP, MODBUS Over IP, BACnet, UPSTCP, DHCP, DNS, sFTP   |
| Front Display       | LED alarm display, LED operating status display  |
| Dimensions          | 483 x 162 x 44mm, (483 x 212 x 44mm incl. SM_LOOM)<br>19,00 x 6,38 x 1,73in, (19,02 x 8,35 x 1,73in incl. SM_LOOM)   |
| Weight              | 2262 g   |
| Operating condition | Temperature 0 - 70°C, max. humidity 20 - 95%, not condensing   |
| Network management  | UNMS II Network Management software  |
| Network Adapter     | Optional PROFIBUS, LONBUS adapter  |
| Additional sensors  | Smoke/fire alarms, motion detectors, door contacts etc., connection of any other alarm contact indicator, which output signal is between 0 - 10V,4 -20mA or rather 0 - 20mA (configurable via jumpers) |
| Actuators           | flash light, alarm buzzer, relay-switches, external switches, etc.   |

**BACS Accessories**

|   |                   |  |  |
|---|-------------------|--|--|
|    |                   | <p><b>BACS® BUS CONVERTER 5</b><br/>Order No. BACS_BUS_CONV_V</p>  |  |
|   | Construction      | Conversion and galvanic separation of the BACS battery bus to the BACS WEBMANAGER BUDGET plus real time clock (RTC) timer for the BACS WEBMANAGER.   |  |
|   | Power Supply      | Stabilized external 12V/2000mA   |  |
|   | Number of modules | Standard Power supply grants power for up to 360 BACS C modules. For up to 512 Modules and sensors, a larger power supply is available.  |  |
|   | Interface         | 2x RJ10 for BACS battery bus<br>1xRJ12 for COM3 BACS WEBMANGER BUDGET<br>1xMiniDin8/RS232 interface for serial connection to workstation.<br>1x2,1mm DC connector socket for power supply via external power supply<br>1x potential-free contact<br>(2 pole screw terminals for 1,0 mm <sup>2</sup> /24 VDC /1A) |  |
|   | Display           | Optical display (LED)  |  |
|   | Alarm             | Internal alarm buzzer with acknowledge button  |  |
|   | Housing           | Polystyrene  |  |
|   | Optional parts    | Optional: Adapter from mini-8 to RS232 for the BACS Reader, with junction cable mini-8 1.5m  |  |
|   | Dimension         | 91,5 x 67 x 25 (W x H x D)   |  |
|   | Weight            | 120g   |  |
|  |                   | <p><b>BACS® SPLITTING BOX</b><br/>Order No. BCII_SPLITT</p>  |  |
|  | Construction      | Passive splitter for BACS communication cables, designed to optimize the overall cable lengths and to create an optical pleasant wiring. In addition to the extension of the 2 BACS bus inputs of the BACS CONVERTER.  |  |
|   | Power supply      | Passive element, no additional power supply required   |  |
|   | Interfaces        | 5* RJ10 for BACS bus cables<br>1x RJ10 input connector for BACS bus data input   |  |
|   | Housing           | Polystyrene  |  |
|   | Dimension         | 91,5 x 67 x 25 (B x H x T)   |  |
| Weight  | 90g               |  |  |
|   |                   | <p><b>BACS® DC current sensor 50/200/400/1000/2000 Ampere</b></p>  |  |



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|   |                   |  |  |
|---|-------------------|--|--|
|    |                   | <b>BACS® bus interface GX_R_AUX</b><br>Order No. GX_R_AUX  |  |
|    | Description       | Input alarms and Output relay management. A typical application is the control of a battery breaker in case of "thermal runaway" alarm in the battery system. Applies to US Norm International Fire Code IFC 608.3 for isolating UPS batteries in case of a thermal runaway. In case of a high battery temperature and increasing voltages during float charge, the GX_R_AUX may open the battery breaker to stop a further increase of the temperatures in the batteries. Individual programming of the relays through web interface. |  |
|   | Inputs            | 4 digital inputs (configurable NO/NC)  |  |
|   | Outputs           | 4 Relay potential-free outputs (NO/NC) / 50VAC – 2A, 30VDC – 1A  |  |
|   | Power supply      | Powered by BACS bus, no external power supply  |  |
|   | Power consumption | 170mA  |  |
|   | Housing           | Polyamide, pluggable system DIN rail   |  |
|   | Dimension         | 75 x 75 x 45mm = 2,95 x 2,95 x 1,77 in. (LxWxH)  |  |
| Weight  | 170g              |  |  |
|    |                   | <b>BACS® CSH Current Sensor</b><br>Ord. No: BACS_CSH50, BACS_CSH200,<br>BACS_CSH400, BACS_CSH1000,<br>BACS_CSH2000   |  |
|  | Construction      | DC current sensor for measuring battery string discharge and charging process +/-50A, +/-200A, +/-400A, +/-1000A, +/-2000A DC Current transducer diameter hole: 21mm [0,82in] (BACS_CSH50) /40 mm [1.57in]   |  |
|   | Power supply      | Intern powered by BACS bus   |  |
|   | Power consumption | 60mA   |  |
|   | Interfaces        | 2x RJ10 for BACS bus cable, pluggable system   |  |
|   | Housing           | DIN Rail   |  |
|   | Dimension (LxWxH) | 110 x 82 x 125 mm = 4,33 x 3,22 x 4,92 in. (LxWxH)   |  |
| Weight  | 420g              |  |  |



ATEX / IECex certified BACS® for EX Environment Zone 1/21 and 2/22

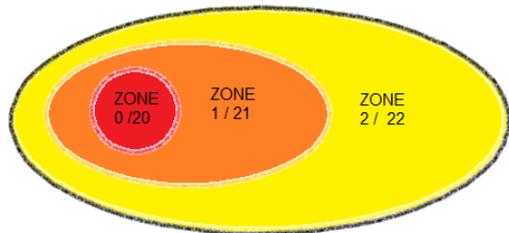
**Modules and cables**

*General BACS module data*

|  |                                  | <b>BACS® modules Generation 3</b>  |
|---|----------------------------------|--|
|  | Construction                     | Measuring modules with passive balancing/equalization<br>BACS is a registered and protected trade mark   |
|   | current consumption from battery | normal operation: 15 - 20mA (C20, C23, C30)<br>35 - 40mA (C40, C41)<br>"Sleep Mode": < 1mA   |
|   | Measuring precision              | Internal resistance: < 10 % at C40, < 5% at C20/30<br>Voltage: < 0,5 %<br>Temperature: < 15 %  |
|   | Interfaces                       | 2x RJ10 for BACS battery bus<br>Internal RS232 bus interface<br>1x button for the addressing<br>Temperature sensor -35 bis + 85 °C<br>Optical display LED (alarms red/green, mode red/green)                                       |
|   | Housing                          | ABS housing (UL certified, flame retardant, cooling fins)  |
|   | Dimensions, weight               | 55 x 80 x 24 mm = 2,17 x 3,15 x 0,94 in. (B x H x T), 45g  |
|   | Operating condition              | Temperature 0 - 60°C, max. humidity 90%, not condensing  |
|   | Int. protection rating           | IP 42 coated against dust and condensate   |
|   | High voltages security tested    | Protection against high ohmic batteries fault voltages up to 150 Volt /per module (fuse opens). At higher voltages the fuse opens, but BACS module is damaged. All REV 3.1 modules are designed for fault voltages up to 1000 Volt |
|   | MTBF (calculated)                | 87.600 hours (10 years)  |

**Available BACS Housings for Zone 1/ 2 and 21/22**

ATEX-certified housing containing: 3 BACS C Modules for various voltages and 6 fuses inside the EX-housing. Including 6 \* ATEX Halogen-free BC4/5 measuring cables, each 1.5m in length and in various ring terminal options. Including 3 \* integrated temperature sensors mounted within in the negative leads.



**Definition of ATEX Zones**

- 

An area in which an explosive atmosphere is present continuously or for long periods of time, consisting of a mixture of air and flammable substances in the form of dust particles, gas, vapor, or mist.
- 

An area in which it is entirely possible that an explosive atmosphere consisting of a mixture of air and flammable substances in the form of dust particles, gas, vapor, or mist could arise for a short time due to production-related reasons during normal operation - for example, when filling and emptying a system.
- 

An area in which it is not expected that an explosive atmosphere consisting of a mixture of air and flammable substances in the form of dust particles, gas, vapor, or mist will occur during normal operation, and if it does, it will only be rare and short-lived.



ATEX / IECEx certified BACS® for EX Environment Zone 1/21 and 2/22

General Housing Data

|   |                       |   |  |
|---|-----------------------|---|--|
|  |                       | <b>TBE 160 TW BACS housing for ATEX Environment</b> |  |
|  | Name                  | TBE 160 TW  |  |
|   | IECEx & ATEX Zone     | Zone 1 / 2 Gas and 21/22 Dust                       |  |
|   | IP Protection Class   | IP 66   |  |
|   | Material              | Aluminium, lacquered                                |  |
|   | Cert. According ATEX  | 18ATEX0119X   |  |
|   | Cert. According IECEx | DEL 18.0075S  |  |
|   | Dimensions            | 300 x 300 x 140mm                                   |  |
|   | Operating Temperature | 0°-50°C max   |  |
| Weight  | 3.9 KG                |   |  |

Modules C20

|  |   |  |
|--|---|--|
|  | <b>Atex Zone 1,2/21,22 Housing with M5 Terminal</b> |  |
|  | Zone 1, 21: Order No. C20ex3_Z1_M5                  |  |
|  | Zone 2, 22: Order No. C20ex3_Z2_M5                  |  |
|  | <b>Atex Zone 1,2/21,22 Housing with M6 Terminal</b> |  |
|  | Zone 1, 21: Order No. C20ex3_Z1_M6                  |  |
| Zone 2, 22: Order No. C20ex3_Z2_M6   |   |  |
| <b>Atex Zone 1,2/21,22 Housing with M8 Terminal</b>                                |   |  |
| Zone 1, 21: Order No. C20ex3_Z1_M8   |   |  |
| Zone 2, 22: Order No. C20ex3_Z2_M8   |   |  |
| <b>Atex Zone 1,2/21,22 Housing with M10 Terminal</b>                               |   |  |
| Zone 1, 21: Order No. C20ex3_Z1_M10Z1  |   |  |
| Zone 2, 22: Order No. C20ex3_Z2_M10Z1  |   |  |
| <b>Atex Zone 1/21 Housing with M12 Terminal</b>                                    |   |  |
| Zone 1, 21: Order No. C20ex3_Z1_M12  |   |  |
| Zone 2, 22: Order No. C20ex3_Z2_M12  |   |  |

Modules C30

|   |   |  |
|---|---|--|
|  | <b>Atex Zone 1,2/21,22Housing with M5 Terminal</b>  |  |
|   | Zone 1, Z21: Order No. C30ex3_Z1_M5                 |  |
|   | Zone 2, Z22: Order No. C30ex3_Z2_M5                 |  |
|   | <b>Atex Zone 1,2/21,22 Housing with M6 Terminal</b> |  |
|   | Zone 1, Z21 Order No. C30ex3_Z1_M6                  |  |
| Zone 2, Z22 Order No. C30ex3_Z2_M6  |   |  |
| <b>Atex Zone 1,2/21,22 Housing with M8 Terminal</b>                                 |   |  |
| Zone 1, Z21 Order No. C30ex3_Z1_M8  |   |  |
| Zone 2, Z22 Order No. C30ex3_Z2_M8  |   |  |
| <b>Atex Zone 1,2/21,22Housing with M10 Terminal</b>                                 |   |  |
| Zone 1, Z21 Order No. C30ex3_Z1_M10   |   |  |
| Zone 2, Z22 Order No. C30ex3_Z2_M10   |   |  |
| <b>Atex Zone 1,2/21,22Housing with M12 Terminal</b>                                 |   |  |
| Zone 1, Z21 Order No. C30ex3_Z1_M12   |   |  |
| Zone 2, Z22 Order No. C30ex3_Z2_M12   |   |  |

Modules C40

|   |   |  |
|---|---|--|
|  | <b>Atex Zone 1,2/21,22Housing with M5 Terminal</b>  |  |
|   | Z1, Z21 Order No. C40ex3_Z1_M5                      |  |
|   | Z2, Z22 Order No. C40ex3_Z2_M5                      |  |
|   | <b>Atex Zone 1,2/21,22 Housing with M6 Terminal</b> |  |
|   | Zone 1, Z21 Order No. C40ex3_Z1_M6                  |  |
| Zone 2, Z22 Order No. C40ex3_Z2_M6  |   |  |
| <b>Atex Zone 1,2/21,22 Housing with M8 Terminal</b>                                 |   |  |
| Zone 1, Z21 Order No. C40ex3_Z1_M8  |   |  |
| Zone 2, Z22 Order No. C40ex3_Z2_M8  |   |  |
| <b>Atex Zone 1,2/21,22Housing with M10 Terminal</b>                                 |   |  |
| Zone 1, Z21 Order No. C40ex3_Z1_M10   |   |  |
| Zone 2, Z22 Order No. C40ex3_Z2_M10   |   |  |
| <b>Atex Zone 1,2/21,22Housing with M12 Terminal</b>                                 |   |  |
| Zone 1, Z21 Order No. C40ex3_Z1_M12   |   |  |
| Zone 2, Z22 Order No. C40ex3_Z2_M12   |   |  |



ATEX / IECex certified BACS® for EX Environment Zone 1/21 and 2/22

**BACS Atex Spare PartsX**

These modules are available as spare parts for a BACS ATEX housing.

|  |  |  |
|--|--|--|
|  |  | <p><b>Module BACS® C20</b><br/>                 Order No. BACSC20<br/>                 REV 3 module for 12Volt 7-600Ah lead, NiCad, NiMH, Lithium batteries (UL certified)</p> |
| <p>Voltage range 9.7V – 17V<br/>                 RI range 0.5-60mOhm<br/>                 Equalization power 0.15 A</p>              |  |  |
|  |  | <p><b>Module BACS® C30</b><br/>                 Order No. BACSC30<br/>                 REV 3 module for 6Volt 7-900Ah lead, NiCad, NiMH, Lithium batteries</p>                 |
| <p>Measuring value 4.8V – 8.0V<br/>                 RI range 0.5-60mOhm<br/>                 Equalization power 0.3 A</p>            |  |  |
|  |  | <p><b>Module BACS® C40</b><br/>                 Order No. BACSC40<br/>                 REV 3 module for 2Volt 7-9000Ah lead, NiCad, NiMH, Lithium batteries (UL certified)</p> |
| <p>Measuring value 1.2V – 3.2V<br/>                 RI range 0.02-6mOhm<br/>                 Equalization power 0.9 A (at 2.27V)</p> |  |  |

**BACS Cables**

Communication cable to connect ATEX housings with the BACS WEBMANAGER

|  |   |  |
|--|---|--|
|  | <p><b>BACS® bus cables</b><br/>                 Order No. B4BCRJx</p>   |  |
|  | <p>Description<br/>                 Cable coating<br/>                 Contacts<br/>                 Cable length</p> | <p>High quality communication BACS bus communication cable<br/>                 halogen free in accordance with VDE0281 part 14<br/>                 twisted pair RJ10<br/>                 Various lengths available.<br/>                 See latest BACS price list for details</p> |



ATEX / IECEx certified BACS® for EX Environment Zone 1/21 and 2/22

**BACS® CONTROL CABINETS: Technical data and dimensions**

Control cabinet for BACS® systems. Plug-play, with AC input plug (Euro) ready to install. With optical and audible display on the outside door, protection class IP 54 with application of included bottom plate. Note that the cabinet is not ATEX certified.

|  |   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
|--|---|------------|---|-------|---|-----|---|----------|---|------------|---|------------|---|-------------|---|-----------|-----|--------|----|---|------------------------|--|-----------------------|--|-----------|----------------|-------------------------------|---|-------|
|   | <p><b>BACS® CONTROL CABINET Type 1</b><br/>Order No. BACS_CC1</p>   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
|   | <table border="0"> <tr><td>Controller</td><td>1</td></tr> <tr><td>Power</td><td>1</td></tr> <tr><td>LAN</td><td>1</td></tr> <tr><td>Contacts</td><td>1</td></tr> <tr><td>Front door</td><td>1</td></tr> <tr><td>Front door</td><td>1</td></tr> <tr><td>Spare parts</td><td>6</td></tr> <tr><td>Dimension</td><td>WHD</td></tr> <tr><td>weight</td><td>kg</td></tr> </table> | Controller | 1 | Power | 1 | LAN | 1 | Contacts | 1 | Front door | 1 | Front door | 1 | Spare parts | 6 | Dimension | WHD | weight | kg | <table border="0"> <tr><td>BACS WEBMANAGER BUDGET</td></tr> <tr><td>12V Power supply (100 – 240V, 50/60Hz)</td></tr> <tr><td>CAT 6 Ethernet socket</td></tr> <tr><td>Alarm contact (potential-free), 230VC / 30VDC / 8A</td></tr> <tr><td>POWER LED</td></tr> <tr><td>BACS ALARM LED</td></tr> <tr><td>Spare bus communication cable</td></tr> <tr><td>400 x 500 x 210 mm = 15,75 x 19,69 x 8,27 in.</td></tr> <tr><td>16,10</td></tr> </table> | BACS WEBMANAGER BUDGET | 12V Power supply (100 – 240V, 50/60Hz) | CAT 6 Ethernet socket | Alarm contact (potential-free), 230VC / 30VDC / 8A | POWER LED | BACS ALARM LED | Spare bus communication cable | 400 x 500 x 210 mm = 15,75 x 19,69 x 8,27 in. | 16,10 |
| Controller   | 1   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| Power  | 1   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| LAN  | 1   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| Contacts   | 1   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| Front door   | 1   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| Front door   | 1   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| Spare parts  | 6   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| Dimension  | WHD   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| weight   | kg  |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| BACS WEBMANAGER BUDGET   |   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| 12V Power supply (100 – 240V, 50/60Hz)   |   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| CAT 6 Ethernet socket  |   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| Alarm contact (potential-free), 230VC / 30VDC / 8A                                 |   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| POWER LED  |   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| BACS ALARM LED   |   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| Spare bus communication cable  |   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| 400 x 500 x 210 mm = 15,75 x 19,69 x 8,27 in.                                      |   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| 16,10  |   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
|   | <p><b>BACS® CONTROL CABINET Type 2</b><br/>Order No. BACS_CC2</p>   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
|  | <table border="0"> <tr><td>Controller</td><td>2</td></tr> <tr><td>Power</td><td>2</td></tr> <tr><td>LAN</td><td>2</td></tr> <tr><td>Contacts</td><td>2</td></tr> <tr><td>Front door</td><td>2</td></tr> <tr><td>Front door</td><td>2</td></tr> <tr><td>Spare parts</td><td>8</td></tr> <tr><td>Dimension</td><td>WHD</td></tr> <tr><td>weight</td><td>kg</td></tr> </table> | Controller | 2 | Power | 2 | LAN | 2 | Contacts | 2 | Front door | 2 | Front door | 2 | Spare parts | 8 | Dimension | WHD | weight | kg | <table border="0"> <tr><td>BACS WEBMANAGER BUDGET</td></tr> <tr><td>12V Power supply (100 – 240V, 50/60Hz)</td></tr> <tr><td>CAT 6 Ethernet socket</td></tr> <tr><td>Alarm contact (potential-free), 230VC / 30VDC / 8A</td></tr> <tr><td>POWER LED</td></tr> <tr><td>BACS ALARM LED</td></tr> <tr><td>spare bus communication cable</td></tr> <tr><td>500 x 500 x 210 mm = 19,69 x 19,69 x 8,27 in.</td></tr> <tr><td>20,20</td></tr> </table> | BACS WEBMANAGER BUDGET | 12V Power supply (100 – 240V, 50/60Hz) | CAT 6 Ethernet socket | Alarm contact (potential-free), 230VC / 30VDC / 8A | POWER LED | BACS ALARM LED | spare bus communication cable | 500 x 500 x 210 mm = 19,69 x 19,69 x 8,27 in. | 20,20 |
| Controller   | 2   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| Power  | 2   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| LAN  | 2   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| Contacts   | 2   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| Front door   | 2   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| Front door   | 2   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| Spare parts  | 8   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| Dimension  | WHD   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| weight   | kg  |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| BACS WEBMANAGER BUDGET   |   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| 12V Power supply (100 – 240V, 50/60Hz)   |   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| CAT 6 Ethernet socket  |   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| Alarm contact (potential-free), 230VC / 30VDC / 8A                                 |   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| POWER LED  |   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| BACS ALARM LED   |   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| spare bus communication cable  |   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| 500 x 500 x 210 mm = 19,69 x 19,69 x 8,27 in.                                      |   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |
| 20,20  |   |            |   |       |   |     |   |          |   |            |   |            |   |             |   |           |     |        |    |   |                        |  |                       |  |           |                |                               |   |       |

|   |  |            |   |       |   |     |   |          |   |            |   |            |   |             |    |           |     |        |    |  |                        |  |                       |  |           |                |                               |  |       |
|---|--|------------|---|-------|---|-----|---|----------|---|------------|---|------------|---|-------------|----|-----------|-----|--------|----|--|------------------------|--|-----------------------|--|-----------|----------------|-------------------------------|--|-------|
|  | <p><b>BACS® CONTROL CABINET Type 3</b><br/>Order No. BACS_CC3</p>  |            |   |       |   |     |   |          |   |            |   |            |   |             |    |           |     |        |    |  |                        |  |                       |  |           |                |                               |  |       |
|  | <table border="0"> <tr><td>Controller</td><td>3</td></tr> <tr><td>Power</td><td>3</td></tr> <tr><td>LAN</td><td>3</td></tr> <tr><td>Contacts</td><td>3</td></tr> <tr><td>Front door</td><td>3</td></tr> <tr><td>Front door</td><td>3</td></tr> <tr><td>Spare parts</td><td>10</td></tr> <tr><td>Dimension</td><td>WHD</td></tr> <tr><td>weight</td><td>kg</td></tr> </table> | Controller | 3 | Power | 3 | LAN | 3 | Contacts | 3 | Front door | 3 | Front door | 3 | Spare parts | 10 | Dimension | WHD | weight | kg | <table border="0"> <tr><td>BACS WEBMANAGER BUDGET</td></tr> <tr><td>12V Power supply (100 – 240V, 50/60Hz)</td></tr> <tr><td>CAT 6 Ethernet socket</td></tr> <tr><td>Alarm contact (potential-free), 230VC / 30VDC / 8A</td></tr> <tr><td>POWER LED</td></tr> <tr><td>BACS ALARM LED</td></tr> <tr><td>Spare bus communication cable</td></tr> <tr><td>500 x 500 x 210 mm = 19,69 x 19,69 x 8,27 inch</td></tr> <tr><td>22,70</td></tr> </table> | BACS WEBMANAGER BUDGET | 12V Power supply (100 – 240V, 50/60Hz) | CAT 6 Ethernet socket | Alarm contact (potential-free), 230VC / 30VDC / 8A | POWER LED | BACS ALARM LED | Spare bus communication cable | 500 x 500 x 210 mm = 19,69 x 19,69 x 8,27 inch | 22,70 |
| Controller  | 3  |            |   |       |   |     |   |          |   |            |   |            |   |             |    |           |     |        |    |  |                        |  |                       |  |           |                |                               |  |       |
| Power   | 3  |            |   |       |   |     |   |          |   |            |   |            |   |             |    |           |     |        |    |  |                        |  |                       |  |           |                |                               |  |       |
| LAN   | 3  |            |   |       |   |     |   |          |   |            |   |            |   |             |    |           |     |        |    |  |                        |  |                       |  |           |                |                               |  |       |
| Contacts  | 3  |            |   |       |   |     |   |          |   |            |   |            |   |             |    |           |     |        |    |  |                        |  |                       |  |           |                |                               |  |       |
| Front door  | 3  |            |   |       |   |     |   |          |   |            |   |            |   |             |    |           |     |        |    |  |                        |  |                       |  |           |                |                               |  |       |
| Front door  | 3  |            |   |       |   |     |   |          |   |            |   |            |   |             |    |           |     |        |    |  |                        |  |                       |  |           |                |                               |  |       |
| Spare parts   | 10   |            |   |       |   |     |   |          |   |            |   |            |   |             |    |           |     |        |    |  |                        |  |                       |  |           |                |                               |  |       |
| Dimension   | WHD  |            |   |       |   |     |   |          |   |            |   |            |   |             |    |           |     |        |    |  |                        |  |                       |  |           |                |                               |  |       |
| weight  | kg   |            |   |       |   |     |   |          |   |            |   |            |   |             |    |           |     |        |    |  |                        |  |                       |  |           |                |                               |  |       |
| BACS WEBMANAGER BUDGET  |  |            |   |       |   |     |   |          |   |            |   |            |   |             |    |           |     |        |    |  |                        |  |                       |  |           |                |                               |  |       |
| 12V Power supply (100 – 240V, 50/60Hz)  |  |            |   |       |   |     |   |          |   |            |   |            |   |             |    |           |     |        |    |  |                        |  |                       |  |           |                |                               |  |       |
| CAT 6 Ethernet socket   |  |            |   |       |   |     |   |          |   |            |   |            |   |             |    |           |     |        |    |  |                        |  |                       |  |           |                |                               |  |       |
| Alarm contact (potential-free), 230VC / 30VDC / 8A                                  |  |            |   |       |   |     |   |          |   |            |   |            |   |             |    |           |     |        |    |  |                        |  |                       |  |           |                |                               |  |       |
| POWER LED   |  |            |   |       |   |     |   |          |   |            |   |            |   |             |    |           |     |        |    |  |                        |  |                       |  |           |                |                               |  |       |
| BACS ALARM LED  |  |            |   |       |   |     |   |          |   |            |   |            |   |             |    |           |     |        |    |  |                        |  |                       |  |           |                |                               |  |       |
| Spare bus communication cable   |  |            |   |       |   |     |   |          |   |            |   |            |   |             |    |           |     |        |    |  |                        |  |                       |  |           |                |                               |  |       |
| 500 x 500 x 210 mm = 19,69 x 19,69 x 8,27 inch                                      |  |            |   |       |   |     |   |          |   |            |   |            |   |             |    |           |     |        |    |  |                        |  |                       |  |           |                |                               |  |       |
| 22,70   |  |            |   |       |   |     |   |          |   |            |   |            |   |             |    |           |     |        |    |  |                        |  |                       |  |           |                |                               |  |       |

BACS Plus Size BACS Control Cabinets are also available as:

| <p><b>BACS® CONTROL CABINET Type 4</b><br/>Order No. BACS_CC4</p> | <p><b>BACS® CONTROL CABINET Type 5</b><br/>Order No. BACS_CC5</p> | <p><b>BACS® CONTROL CABINET Type 6</b><br/>Order No. BACS_CC6</p> |
|---|---|---|
| <p>- 4 * BACS WEBMANAGER BUDGET</p>                               | <p>- 5 * BACS WEBMANAGER BUDGET</p>                               | <p>- 6 * BACS WEBMANAGER BUDGET</p>                               |
| <p>- 4 * 12V Power 100 – 240V, 50/60Hz</p>                        | <p>- 5 * 12V Power 100 – 240V, 50/60Hz</p>                        | <p>- 6 * 12V Power 100 – 240V, 50/60Hz</p>                        |
| <p>- 4 * CAT 6 Ethernet socket</p>                                | <p>- 5 * CAT 6 Ethernet socket</p>                                | <p>- 6 * CAT 6 Ethernet socket</p>                                |



ATEX / IECex certified BACS® for EX Environment Zone 1/21 and 2/22

|  |   |   |
|--|---|---|
| - 4 * Alarm contact (potential-free)<br>230VC, 30VDC, 8A                           | - 5 * Alarm contact (potential-free)<br>230VC, 30VDC, 8A                          | - 6 * Alarm contact (potential-free)<br>230VC, 30VDC, 8A                          |
| - 4 * POWER LED,<br>- 4 * BACS ALARM LED   | - 5 * POWER LED,<br>- 5 * BACS ALARM LED  | - 6 * POWER LED,<br>- 6 * BACS ALARM LED  |
| 12 * spare bus communication<br>cable  | 14 * spare bus communication<br>cable   | 16 * spare bus communication<br>cable   |
| - Dimension:<br>600 x 760 x 210 mm<br>23,62 x 29,92 x 8,27 in,<br>weight: 38,10 kg | - Dimension:<br>760 x 760 x 210 mm<br>29,92 x 29,92 x 8,27 in<br>weight: 48,50 kg | - Dimension:<br>760 x 760 x 210 mm<br>29,92 x 29,92 x 8,27 in<br>weight: 55,40 kg |

|                     |   |  |
|---------------------|---|--|
|                     |   | <p><b>BACS® CONTROL CABINET with PC</b><br/>All Cabinets are also available with a fully featured Touch Panel Computer</p> |
|                     | RAM   | 1*204-pin SODIMM DDR3L 1333MHz / up to 8GB   |
|                     | CPU   | Intel Bay Trail J1900 Quad Core 2GHz   |
|                     | Touch Panel   | 15" XGA TFT multi-point capacitive touch screen  |
|                     | USB   | 4* USB Ports and 1 covered USB Service Port  |
|                     | COM   | 6 COMPorts   |
|                     | LAN   | 2 GLAN P   |
|                     | Wireless  | 1 x Mini-PCIe slot, extensible 3G,Wifi wireless card   |
|                     | Power Consumption (max)   | 38,6 Watt max  |
|                     | Input voltage   | DC 12V, support reverse polarity protection  |
|                     | Graphic Software  | VGA/HDMI<br>Windows 10 Professional English Language<br>BACS Tools Software packet pre-installed                           |
| Operating Condition | -30 ~80°C (-22~176°F)   |  |
| Relative humidity   | 5~95% (Non condensation)  |  |
| EMC                 | CD/FCC Class A  |  |
| Notes:              | The Operating system is a fully featured Windows 10 operating system and needs additional configuration work. not pre-configured – you need to configure it before first use. |  |

Also available: BACS Control Cabinet with a full featured Windows Touch Panel All-In-One (AIO) - Computer For

|   |             |
|---|-------------|
| How to order your BAC CC with Touch Panel PC: |             |
| 1 BACS WEBMANAGER + PC                        | BACS_CC1_TP |
| 2 BACS WEBMANAGER + PC                        | BACS_CC2_TP |
| 3 BACS WEBMANAGER + PC                        | BACS_CC3_TP |
| 4 BACS WEBMANAGER + PC                        | BACS_CC4_TP |
| 5 BACS WEBMANAGER + PC                        | BACS_CC5_TP |
| 6 BACS WEBMANAGER + PC                        | BACS_CC6_TP |