



Innovations  
2018



# BALS CONNECT

With BALS-CONNECT, the permanent monitoring of individual loads is easier than ever. The ready-to-install solution makes your systems and machines fit for the demands of digitalisation and Industry 4.0. Power distributors that are equipped with BALS-CONNECT ex-works allow the connected loads to be integrated directly in the infrastructure of the networked world. All relevant data of the power consumers are not only continuously recorded and stored,

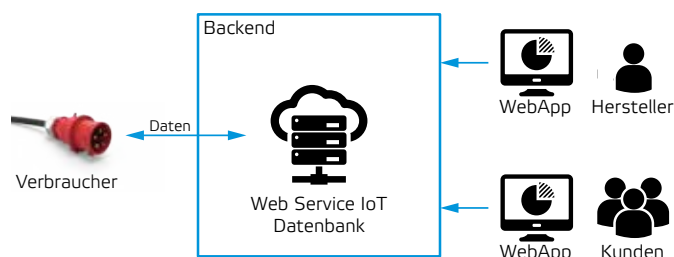
they are also available to you via the Bals Cloud independent of location – uncomplicated, transparent and in real time. Use BALS-CONNECT to increase the efficiency and simplicity in the administration of any number of loads and applications. Highest security standards thanks to state-of-the-art encryption are a matter-of-course.

## Functions of the BALS-CONNECT system:

- Integration of distributor systems in the IoT
- Recording of the physical operating parameters
- Energy monitoring of the connected loads
- Quick view of the total consumption of multiple assigned devices
- Ready-to-install complete system for monitoring and recording electrotechnical measurement values
- Bals Cloud for storing the recorded data
- Temperature monitoring of the contacts
- Problem detection in the event of overload, temperature increase or failure
- Mobile data transfer by means of SIM card via GSM or LTE
- Load detection through built-in RFID system
- Assignment and central management of the RFID devices by means of the Bals web app
- Secure and encrypted data transfer with TLS 1.2
- Visualisation of historical and current load data via the web app
- Configuration of the measurement intervals
- IoT connectivity via MQTT protocol
- Data export as CSV file or REST-API

## Application examples:

- Container terminals, monitoring of refrigerated containers in port facilities
- Construction industry, monitoring of mobile distributors and power distributors for construction sites
- Distributors in the infrastructure for transport technology
- Reading out and monitoring of power distribution systems
- Event technology, monitoring of the event distributors and their billing
- Surface mining, status of pumps or conveyor belts
- Energy monitoring in production facilities



The schematic operating principle of the BALS-CONNECT system.



The BALS-CONNECT web app clearly displays the load data.



## eMOBILE

The popularity and proliferation of electric vehicles is constantly increasing, though acceptance is often hampered by the lack of charging infrastructure. To counter this problem, electric vehicles are generally equipped with a charging cable for a 230V socket. Charging at a standard household socket is, however, limited by longer charging times and, in the worst case, can result in overheating. With the Bals i<sup>2</sup> charging socket, you achieve a significant reduction in the charging time with a very high level of safety.

The i<sup>2</sup> charging system is equipped with a temperature monitor and, thanks to its authorisation function, can be used as a charging socket for your car or as a connection for other household devices. Taking into account the installation guideline, operation with a continuous charging current of 16A (3.7kW) is possible with the Bals i<sup>2</sup> system, unlike a standard household socket. Clear identification and compatibility between i<sup>2</sup> charging plug and i<sup>2</sup> charging socket and their performance parameters is ensured.

### The i<sup>2</sup> system

- Shortening of the charging time through continuous charging with 16A 230V (3.7kW)
- Identification of the loads also allows for the operation of commonly used electrical devices
- Very high level of safety and quality
- Tamper-proof through integrated auxiliary contacts with coding function
- Suitable for cable cross sections of up to 2.5mm<sup>2</sup>
- Silver plated contacts

### Functions of the i<sup>2</sup> charging socket

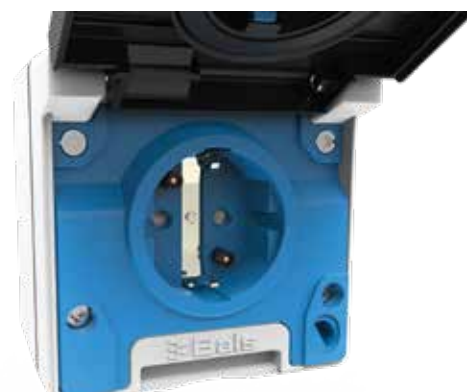
- Available with protection degrees IP44 and IP66
- Can be locked in the plugged-in state (version IP44)
- With protection against contact (child protection)
- With NO or NC auxiliary switch for signal transfer
- Type E and F earthing system
- Spring travel restraint prevents contact deformation
- With authorisation contacts

### Functions of the i<sup>2</sup> charging plug

- Protection degree IP 44
- Integrated temperature sensor
- Can withstand being driven over
- Suitable for Type E or Type F earthing system
- With authorisation contacts



The IP44 version can be locked with the plug plugged in.



The charging socket with authorisation contacts in detail.



## VARIABOX

The Bals VARIABOX distributor system is even more versatile and flexible. As an adaptive further development, the new network data sockets as well as the switched interlocked CEE sockets are now available. Thus, the distributors can now be equipped with RJ45, HDMI or USB connections if necessary.

The coded flange plate with separate switch accommodates the mechanically interlocked panel mounting socket from 16A 3-pole to 32A 5-pole in IP44 or IP67 and can be perfectly integrated optically in the overall system.

Thus, the VARIABOX once again lives up to its reputation as a true all-rounder among the distributor systems. With the S, M, L, XL and XXL versions as wall-mounted or mobile combination, you will always find the right distributor for your needs – flexibly and individually configurable. A decisive advantage of the distributor is its freedom from maintenance: all panel mounting sockets are equipped with the touch-safe QUICK-CONNECT connection technology. Also unique is the operating window with OTC mechanism (one touch close).

### Variabox extension – switching bar:

- Perfect optical integration in the existing system
- User-friendly arrangement in the case of multiple units
- Mechanical double-interlocking
- Can be locked in the 0-position
- Nickel plated contacts
- High-temperature-resistant contact carriers
- Greater flexibility in the Variabox system landscape
- Suitable for harsh environmental conditions
- Versions in all voltages and frequencies from 16A 3-pole to 32A 5-pole
- Protection degrees IP44, IP54 and IP67

### Variabox extension – network socket:

- Perfect optical integration in the existing system
- Optionally equipped with RJ45, HDMI or USB
- Various data technology inserts available
- With protection against contact
- Protection degree IP54
- Greater flexibility in the Variabox system landscape
- Can be closed with the plugs plugged in, optionally lockable
- With labelling fields



Detailed view of switched interlocked flange plate.



The network socket with various data inserts.





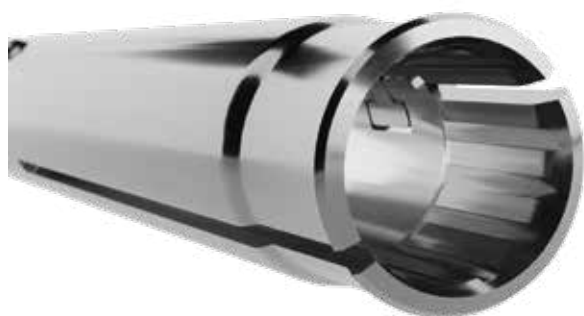
# KONTEX ULTRA

KONTEX-ULTRA is the logical further development of the KONTEX-PLUS contact technology from Bals, which has proven itself for years. Thanks to a new production process and advanced new technology, the contact sleeves achieve even better properties with significantly lower plugging and pulling forces. The chamfering provided directly on the sleeve mouth as well as the specially developed base material reduce friction losses and thereby significantly

simplify plugging in and unplugging. Another advantage is the self-cleaning effect, which effectively protects against dirt and oxidation products. The high-temperature-resistant and reliable contact technology is available in versions from 63 to 125A, making KONTEX-ULTRA the optimum solution for the highest standards under a wide range of operating conditions.

## The advantages at a glance:

- Lower plugging and pulling forces
- Available from 63A – 125A
- Reduced friction forces
- Flexible and specially developed base material
- Chamfering on sleeve mouth simplifies plugging in
- Self-cleaning of the contact surface through drainage paths (freeing of dirt and oxidation products)
- Low heat development
- Nickel plated contacts for difficult operating conditions
- Optimum contacting and higher contact pressure over defined contact surfaces
- Resistant to high temperatures
- No deformation of the contact sleeves through use of expansion limiter



The defined contact surfaces for higher contact pressure.



KONTEX-ULTRA available in versions from 63 to 125A.

■ made  
■ in  
■ Germany



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