# ComPass B 2.0 | ComPass Bs 2.0

Directional fault indicator with monitoring and control function

HORSTMANN
GERMANY

Düsseldorf Medienhafen

ComPass Bs 2.0
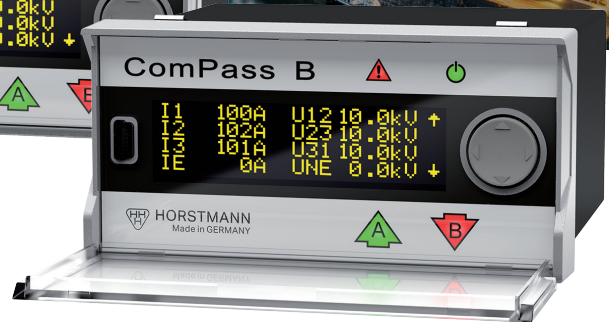
ComPass B 2.0

## Product features

- Clear fault indication and reading on-site: 2 directional arrow LEDs (A, B) and high contrast OLED display
- High-precision current and voltage measurement (0.5 %)
- Monitoring of the parameters voltage (V), current (I), load flow direction (A↑ or B↓), power factor (cos φ), power (P, Q, S), energy (E), temperature (T) and frequency (f)
- Suitable for all types of networks/neutral point treatments
- Earth fault detection with 6 different earth fault detection methods, also in combination
- Voltage monitoring with connection to capacitive and resistive (ohmic) sensors in one indicator
- Limit monitoring: V, I, P, Q, T
- ComPass Explorer Software: Commissioning and parameterisation via front accessible USB port

Additional features of the Control ComPass Bs 2.0:

- Control ComPass Bs 2.0 for remote controlling of a load-break switch or circuit-breaker
- Free assignment of six binary inputs for the collection and transmission of relevant switchgear / station data
- Freely programmable logic for flexible definition of switchgear conditions

## Your advantages

- Immediate detection of fault direction
- Immediate detection of limit violations
- Measured values available for SCADA and on site
- Automatic self-calibration of the capacitive voltage inputs, optionally with temperature compensation
- Only ComPass Bs: Remote switching

The ComPass B 2.0 is suitable for use in substations with a remote control connection of the electrical power distribution in a medium voltage network. In addition to the short-circuit and earth fault function, ComPass B 2.0 supplies the collected measured values of current, voltage and power from the station for transmission to the control room. The PT-100 sensor measures the temperature, for example of the transformer or the transformer station. For all measured values limits can be defined, which can also be transmitted to the control room.

The voltage coupling/measurement is done via the capacitive VDS system and/or via resistive (ohmic) voltage sensors. With the simultaneous measurement, the voltage measurement of the VDS system can be automatically calibrated with the resistive voltage measurement. Up to four ComPass B can be connected to one set of resistive voltage sensors.

In addition to the functions of the ComPass B 2.0, the Control ComPass Bs 2.0 offers a control function for switching a load-break switch or circuit-breaker. A free assignment of six binary inputs in combination with a freely programmable logic (PLC functionality) enables the user to define the switching conditions in a flexible manner. Random information, such as the SF6 gas disruption or HV tripped fuse, can be captured via the binary inputs.

| Technical data | ComPass B 2.0 | ComPass Bs 2.0 |
|---|---|---|
| Directional short-circuit indicator | ■ | ■ |
| Directional earth fault indicator | ■ | ■ |
| Earth fault detection methods | Permanent, earth short-circuit, transient, cos φ, sin φ | |
| Control system / freely programmable logic | – | ■ |
| Measured values / indication | • Phase currents $I_1$, $I_2$, $I_3$, $I_E$ with phase angle<br>• Phase-to-earth voltage $V_1$, $V_2$, $V_3$, $V_{NE}$ and phase-to-phase voltage $V_{12}$, $V_{23}$, $V_{31}$, $V_{NE}$ with phase angle<br>• Load flow direction A↑ or B↓<br>• P, Q, S and cos φ (power factor) ($P_{1,2,3}$, $Q_{1,2,3}$, $S_{1,2,3}$, cos φ $_{1,2,3}$ via RS485)<br>• Amount of active energy, separate for load flow direction A↑ or B↓, additionally per phase<br>• Operating current, $I_1$, $I_2$, $I_3$, $I_E$, S, P, Q, $U_{12}$, $U_{23}$, $U_{31}$, all average values adjustable (1 – 60 min), $I_1$, $I_2$, $I_3$ max. 24 h / 7 days / 365 days , maximum demand indicator $I_{max.}$ LR, $V_{12max.}$ LR, $V_{23max.}$ LR, $V_{31max.}$ LR, $S_{max.}$ LR, $P_{max.}$ LR, $Q_{max.}$ LR, Tmin LR, $T_{max.}$ LR (last reset)<br>• Power frequency f<br>• Temperature T | |
| $I$>> short-circuit trip current | 10 – 2,000 A, self-adjustment (200 – 2,000 A) | $tI$>> response delay: 20 ms – 60 s |
| $I_{ES}$> / $I_{ES}$>> earth short-circuit trip current | 10 – 1,000 A | $tI_{ES}$> / $tI_{ES}$>> response delay: 40 ms – 60 s |
| $I_{ET}$> transient method | 10 – 500 A | |
| $I_{EP}$> active current cos φ | 1 – 200 A | $tI_{EP}$> response delay: 40 ms – 60 s |
| $I_{EQ}$> reactive current sin φ | 1 – 200 A | $tI_{EQ}$> response delay: 40 ms – 60 s |
| $V_{NE}$> permanent earth fault values | 1 – 100 % | $tV_{NE}$> response delay: 40 ms – 60 s |
| Limit monitoring | | |
|   I> overload current | 5 – 1,500 A | $tI$> response delay: 40 ms – 60 s |
|   V> overvoltage | 100 – 200 % | $tV$> response delay: 40 ms – 60 s |
|   V< undervoltage | 1 – 100 % | $tV$< response delay: 40 ms – 60 s |
|   P> / P>> / +P> / −P> active power | 1 – 30,000 kW | $tP$> / $tP$>> / +$tP$> / −$tP$> response delay: 40 ms – 60 s |
|   Q> / Q>> / +Q> / −Q> reactive power | 1 – 30,000 kW | $tQ$> / $tQ$>> / +$tQ$> / −$tQ$> response delay: 40 ms – 60 s |
|   T< / T<< / T> / T>> temperature | −40 to +85 °C | |
| Measurement accuracy phase currents | Up to 0.5 % / 0.5 A closed sensor type, ≤1 % / 0.5 A split-core sensor type | |
| Measurement accuracy voltages | Up to 0.5 % in the range of 80 – 120 % / Vnom (resistive) | |
| Indication | • LED status display (multicolour)<br>• OLED display (multicolour) | |
| Binary inputs | 2, potential-free, 1 s < t < 5 s, freely programmable | 6, freely programmable, max. 30 V DC |
| Remote signal / communication | • 4 potential-free relay contacts, freely configurable<br>• RS485 / Modbus interface | |
| Parameter setting | USB port with ComPass Explorer Software | |
| Remote contact | 4 permanent or momentary contacts, bistable, NC or NO<br>Contact capacity: 230 V AC / 1 A / 62.5 VA max.; 220 V DC / 1 A / 60 W max. | 4 permanent or momentary contacts, monostable, NC or NO<br>Contact capacity: 250 V AC / 6 A; 30 V DC / 6 A, resistive load |
| Reset | • By rocker switch<br>• Remote reset<br>• Automatic time reset: 1 min – 24 h<br>• Via RS485 / Modbus interface<br>• Current restoration<br>• Voltage restoration<br>• Restoration of auxiliary supply<br>• ComPass Explorer Software | |
| Power supply | | |
|   External auxiliary supply | 24 – 230 V AC/DC (±10 %) | |
|   Internal power supply | Long-life lithium cell, active flashing time >1,000 h, >1,000 display activations, shelf life ≥20 years | |
| Housing | Polycarbonate, IP50 | |
| Temperature range | −30 to +70 °C | |

Dimension drawing in catalogue on page 159, M7

| Equipment set | | Accessories |
|---|---|---|
| 1 display unit | | Installation system |
|   ComPass B 2.0 | Order no. 38-4150-001 | Connection to remote monitoring |
|   ComPass Bs 2.0 | Order no. 38-4153-001 | Temperature sensor PT100 |
| 3 single-phase current sensors[1] | | Wall-mounted housings |
| 1 voltage signal | | External signal lamp |
| | | Disassembly clip |
| | | Spring clip |

1) Combination with summation current sensor possible: 2+1 or 3+1

# Equipment set options

For directional fault indicators Sigma D series and ComPass B series

## Voltage signal

| HR Jack module | Gas-/solid insulated switchgear | Air-insulated switchgear |
|---|---|---|



| HR interface cable | Wega with HR interface cable | Integrated voltage detecting system Wega series | Interface cable | Wega with interface cable |
|---|---|---|---|---|
| Page 110 | Page 110 | Page 100 | Page 111 | Page 111 |

**+**

## Current signal



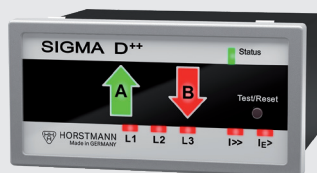| Split-core single-phase current sensors for retrofit and new installations | Closed single-phase current sensors for new installations |
|---|---|
| Page 50 | Page 50 |

**+**

## Directional short-circuit and earth fault indicators



| Sigma D series | ComPass B series |
|---|---|
| Page 42 | Page 44 + 46 |

**[+]**

## Resistive voltage signal
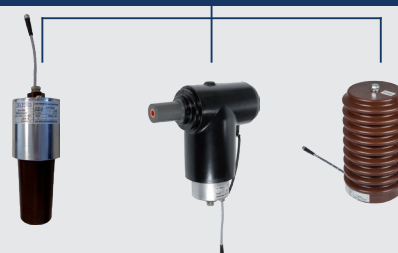


**Optional supplement**

Page 55

# Single-phase current sensors

## For new installations on bushings

for Sigma 2.0 series, Sigma D series, ComPass series

### ABB
Type:
Safelink, SafePlus, SafeRing
Ø 79,5 mm / 84 mm

Order no.
3 x 49-6025-000 or
3 x 49-6025-301

### Driescher
Type:
MINEX, MINEX C, G.I.S.E.L.A.
Ø 84 mm

Order no.
49-6025-601[1]

### EATON
Type:
XIRIA
Ø 79,5 mm / 84 mm

Order no.
3 x 49-6025-000 or
3 x 49-6025-301

### Lucy Electric
Type:
AegisPlus
Ø 84 mm

Order no.
3 x 49-6025-601

### Ormazabal
Type:
ga, gae, ge
Ø 84 mm

Order no.
3 x 49-6025-311

### Schneider Electric
Type:
RM6
Ø 84 mm

Order no.
3 x 49-6025-301

### Schneider Electric
Type:
FBX
Ø 84 mm

Order no.
1 x 49-6025-622

### Siemens
Type:
8DJH (cubicle width 310 mm)
Ø 84 mm

Order no.
1 x 49-6025-630

### Siemens
Type:
NXPLUS C,
8DJH (cubicle width 430 mm)
Ø 84 mm

Order no.
3 x 49-6025-611

For screened connectors only. Insulation level: 0.72 / 3 kV.
1) Without retaining plates. Order no. with retaining plates on request

## For retrofit on insulated cables

for Sigma 2.0 series, Sigma D series, ComPass series

| Conductor Ø [mm] | Cable length [m] | Order no. |
|---|---|---|
| 15 – 55 | 3.00 | 49-6024-001 |

| Conductor [mm] | Cable length [m] | Order no. |
|---|---|---|
| 15 – 65 | 3.00 | 49-6024-010 |
| 15 – 78 (1250 A) | 3.00 | 49-6024-130 |

# Summation current transformers

## For installation on insulated cables

for Sigma *plus*

| Conductor Ø [mm] | Cable length [m] | Order no. |
|---|---|---|
| 40 – 115 | 3.00 | 49-6013-016 |

| Conductor [mm] | Cable length [m] | Order no. |
|---|---|---|
| 280 – 50, oval | 3.00 | 49-6013-028 |

| Conductor [mm] | Cable length [m] | Order no. |
|---|---|---|
| 350 – 50, oval | 3.00 | 49-6013-027 |

## For installation on medium voltage cables

for Earth Zero, Earth Zero Flag, Earth 4.0

| Conductor Ø [mm] | Cable length [m] | Order no. |
|---|---|---|
| 60 – 150 | 3.0 | 49-6013-029 |

## For installation on medium voltage cables

for Opto F+E 3.0

| Conductor Ø [mm] | Trip currents[1] [A] | Order no. |
|---|---|---|
| up to 115 | 40, 80, 120 or 160 | 49-6014-009 |
| up to 115 | (10), (20), 40 or 80 | 49-6014-007 |

| Conductor Ø [mm] | Trip currents[1] [A] | Order no. |
|---|---|---|
| 280 x 50, oval | 80, 120, 160 or 200 | 49-6014-022 |

1) adjustable

| Conductor Ø [mm] | Trip currents[1] [A] | Order no. |
|---|---|---|
| 350 x 50, oval | 80, 120, 160 or 200 | 49-6014-021 |

1) adjustable

# Summation current sensors

## Summation current sensor, splittable

for Sigma D+, Sigma D++, ComPass B series

| Conductor Ø [mm] | Cable length [m] | Order no. |
|---|---|---|
| 220 – 250 | 4.00 | 49-6023-020 |

| Function | Wega 1.2 C Page 102 | Wega 2.2 C Page 106 | Wega with interface cable Page 110–111 | HR interface cable Page 110 | Interface cable for post insulator Page 111 |
|---|---|---|---|---|---|
| Capacitive voltage signal | ■ | ■ | ■ | ■ | ■ |
| Resistive voltage signal | – | – | – | – | – |
| Voltage indication | ■ | ■ | ■ | – | – |
| Voltage measurement | – | – | – | ■ | ■ |
| | | | | | |
| Connection to Sigma D series | ■ | ■ | ■ | ■ | ■ |
| Connection to ComPass B | ■ | ■ | ■ | ■ | ■ |
| Connection to ComPass B 2.0 series | ■ | ■ | ■ | ■ | ■ |
| | | | | | |
| New installation | ■ | ■ | – | – | – |
| Retrofit | – | – | ■ | ■ | ■ |
| Gas-/solid insulated switchgear | ■ | ■ | ■ | ■ | – |
| Air-insulated switchgear | ■ | ■ | ■ | ■ | ■ |
| Features | | | | | |
| Maintenance-free voltage detecting system | ■ | ■ | ■ | – | – |
| Relay contacts for remote monitoring | – | ■ | – | – | – |
| Voltage indication in combination with HR interface | – | – | ■ | – | – |
| Voltage indication in combination with post insulator | – | – | ■ | – | – |
| Direct connection from HR interface to directional fault indicator | – | – | – | ■ | – |
| Direct connection from post insulator to directional fault indicator | – | – | – | – | ■ |
| Capacitive interface integrated in switchgear | ■ | ■ | ■ | ■ | ■ |
| High-precision voltage measurement | – | – | – | – | – |
| Installation on T connector set | – | – | – | – | – |
| Installation on A cone | – | – | – | – | – |
| Connection to Wega possible | – | – | – | – | – |
| Voltage calibration necessary | ■ | ■ | ■ | ■ | ■ |

| C1A2-24 | C1Ix | RDP series | RDG3-24 | RDM3-24 |
|---|---|---|---|---|
| Page 54 | Page 54 | Page 55 | Page 55 | Page 55 |
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# Voltage sensors

## Capacitive voltage coupling

for Wega series in air-insulated switchgears

### For Wega series

| C1A2-24 | Cable length [m] | Rated voltage [kV] | Order no. set |
|---|---|---|---|
| For medium voltage switchgear types[1]<br>Driescher: LDTM-12/24<br>Driescher: TSL-20, TSL-G20<br>Calor Emag: C2-20,<br>Calor Emag: C3-10/20<br>F&G: Concordia Sprecher 12<br>F&G: EA20<br>Leukhardt: 10 kV | 4.5 | 12, 24 | V38-9100-061-001 |

1) Further types of switchgear on request.

| C1Ix | Voltage [kV] | Order no. |
|---|---|---|
| C1I1-12 | max. 12 | 3 x 48-0101-002 |
| C1I2-24 | max. 24 | 3 x 48-0101-003 |
| C1I3-36 | max. 36 | 3 x 48-0101-004 |

# Resistive voltage sensors for high-precision voltage measurement

## for ComPass B 2.0 series
with shielded 2 pole cable with connector, connecting terminal resistor and termination resistor

### For gas-insulated switchgears

| RDP1-24 | Cable length [m] | Voltage [kV] | Order no. set |
|---|---|---|---|
| For T connector set[1] | | | |
| Nexans: (K)400TB<br>Cellpack: CTS-S<br>Südkabel: SEHDT 13, SEHDT 23 | 3.7 | 12, 24 | 38-9100-013 |

| RDP2-24 | Cable length [m] | Voltage [kV] | Order no. set |
|---|---|---|---|
| For T connector set[1] | | | |
| NKT: CB-24, CC-24<br>Raychem: RSTI-58xx, RSTI-CC-58xx | 3.7 | 12, 24 | 38-9100-017 |

| RDP3-24 | Cable length [m] | Voltage [kV] | Order no. set |
|---|---|---|---|
| For T connector set[1] | | | |
| Nexans: (K)430TB-630A, (K)300 PB-630A<br>Südkabel: SET24, SEHDT23.1, SAT24, SEHDK23.1, SAK24, MUT23, MUT23.1, AD23.1SP | 3.7 | 12, 24 | 38-9100-018 |

| RDP4-24 | Cable length [m] | Voltage [kV] | Order no. set |
|---|---|---|---|
| For T connector set[1] | | | |
| Cellpack: CTS630A, CTKS630A | 3.7 | 12, 24 | 38-9100-019 |

1) Further connector sets on request.

| RDP5-24 | Cable length [m] | Voltage [kV] | Order no. set |
|---|---|---|---|
| For T connector set[1] | | | |
| Nexans: (K)430TB-630A, (K)800PB-630A, (K)484TB-630A, (K)804PB-630A, (K)489TB-630A, (K)809PB-630A, 800SA | 3,70 | 24, 50 | 38-9100-021 |

| RDG3-24 | Cable length [m] | Voltage [kV] | Order no. set |
|---|---|---|---|
| Sensors with adapters for A cones | 6.0 | 12, 24 | 38-9100-026 |

| Connecting cable | Cable length[1] [m] | Order no. |
|---|---|---|
| For providing voltage information from ComPass B 2.0 to ComPass B 2.0 | 1.00 | 49-0509-311 |

1) Further cable length on request.

### For air-insulated switchgears

| RDM3-24 | Cable length [m] | Voltage [kV] | Order no. set |
|---|---|---|---|
| For different switchgear manufacturers | 6.0 | 12, 24 | 38-9100-050 |

| RDM3-24 | Cable length [m] | Voltage [kV] | Order no. set |
|---|---|---|---|
| For different switchgear manufacturers with retaining plate for installation on cable brackets | 6.0 | 12, 24 | 38-9100-051 |
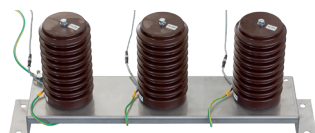
# iHost

Monitor your entire grid around the clock

iHost solution
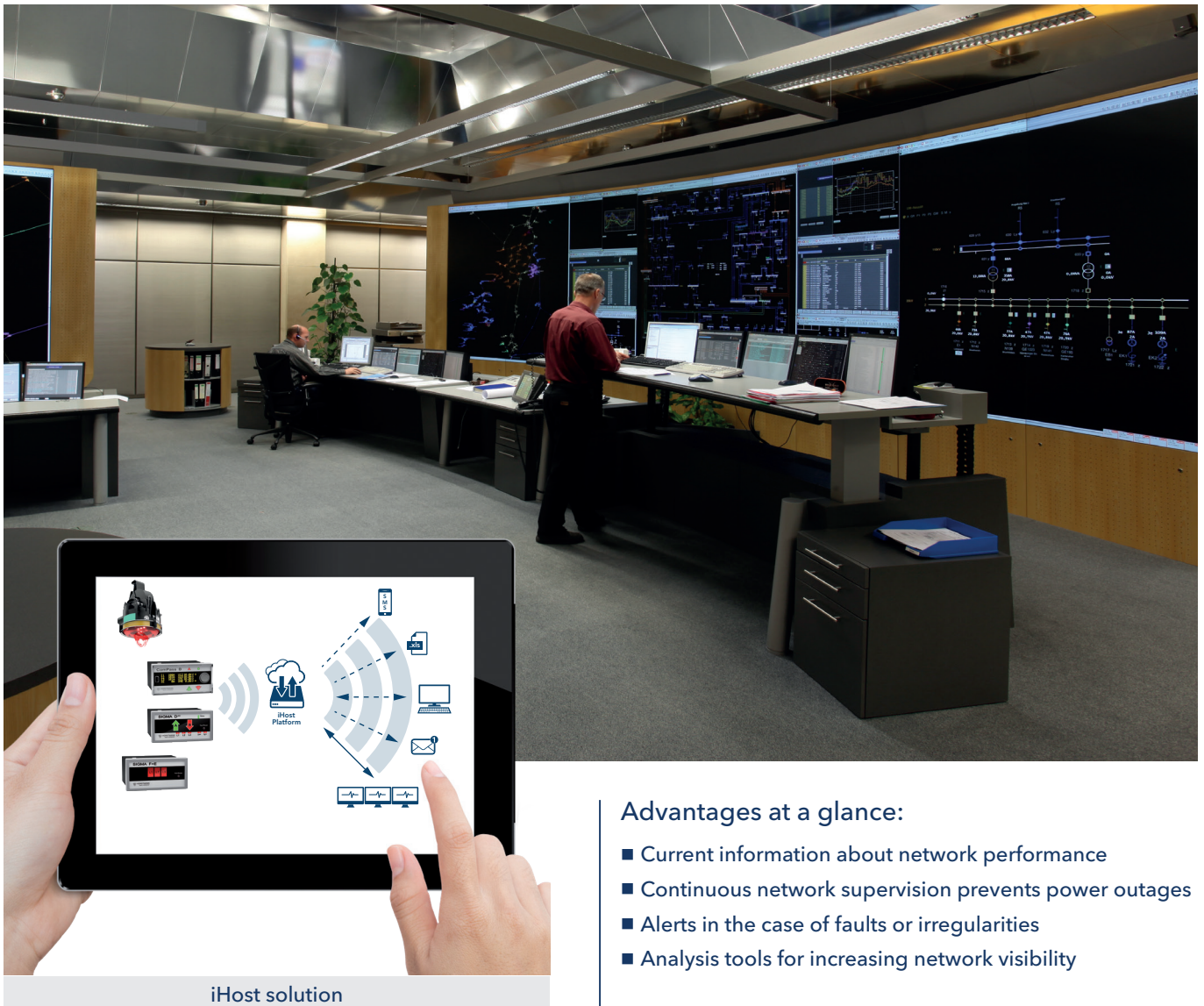
## Horstmann products are in step with the times:

As grids become increasingly complex and heterogeneous, greater demands are placed on the availability of electricity networks. The increasing use of renewable energy sources and the desire for decentralisation play important roles in this development.

## The Horstmann solution:

Information based network monitoring – the iHost system reduces power outage times thanks to quicker availability of information.

The iHost system collects data from devices such as from the short-circuit and earth fault indicators in the field (e.g. of the Compass series – see page 44), evaluates the data in a data concentrator and shares it with the control room systems and / or mobile terminals. Fault information and exceeded limits can also be send by e-mail or SMS.

## Advantages at a glance:

- Current information about network performance
- Continuous network supervision prevents power outages
- Alerts in the case of faults or irregularities
- Analysis tools for increasing network visibility

## Product features:

- Data concentrator for short-circuit and earth fault indicators
  - Bundles and processes all data received from remote field devices
  - Provides data access at any time in various ways and devices
- Central management of all field devices – with one click
  - Grid monitoring: system overview, data analysis, health checks
  - Configuration and firmware updates from SCADA
- Data on demand
  - Customised visualisation of data and alarms
  - Individual notifications, generated automatically
- Embedded database
  - Grid data available from day one of installation
  - Flexible data provision for asset management, planning, engineers and further user

# iHost

Remote monitoring software for SCADA
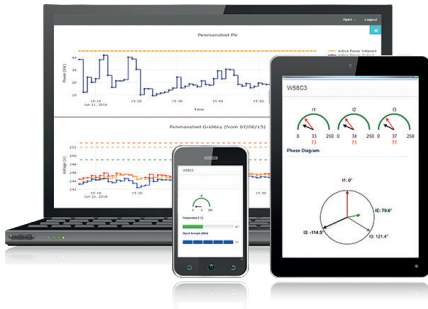
iHost Cloud



iHost Compact

## iHost Cloud

For smaller scale projects or pilot schemes iHost Cloud is the best choice. Quick and easy implementation works without software installation. Handling is very user-friendly – all you need is a web-enabled device, your username and password. Customised notifications in case of a fault or alarms are possible via SMS and e-mail.

## iHost Compact

If you want to see the data in your SCADA, iHost Compact is the right choice. With this solution iHost becomes part of your SCADA infrastructure. Installed on a physical or a virtual server iHost is a gateway that processes all data and forwards them directly to your SCADA. With iHost Compact you manage all remote devices installed in the power network.

| Feature | iHost Cloud | iHost Compact | | |
|---|---|---|---|---|
| | | Software | Software / hardware | Software/hardware/101 |
| Hardware / Server arrangement | • High availability cluster<br>• Software as a service | Single installation of the ihost software on a customer supplied, pre-installed and virtual server | Single server, Horstmann supplied | Single server, Horstmann supplied with serial interface |
| Operating system (OS) | Cloud service / data centre | Microsoft Windows Server OS | Microsoft Windows Server OS | Microsoft Windows Server OS |
| Visualisation | Web browser | SCADA | | |
| SIM cards for smart FCI / RTU | Available on request | Customer supplied SIM with private APN | | |
| iHost licence type | Software included | One-time license fees | | |
| RTU count | 1 – 1,000 | 50 / 250 / 500 | | |
| Limits of users / user roles | 50 / 3 | 2 / 2 | | |
| Maps | Yes | No | | |
| Notifications | Yes (e-mail / SMS) | No | | |
| Historian | Yes | No | | |
| Data access API | No | No | | |
| SCADA protocols | n/a | IEC60870-5-101[1]<br>IEC60870-5-104<br>DNP3 (serial)[1]<br>DNP3 (IP) | IEC60870-5-104<br><br>DNP3 (IP) | IEC60870-5-101<br>IEC60870-5-104<br>DNP3 (serial)<br>DNP3 (IP) |
| Simultaneous SCADA channels | n/a | 2 | | |

1) Customers server hardware must contain serial interface.

| iHost Cloud | | | | Accessories |
|---|---|---|---|---|
| 1 licence | | | | Smart Navigator 2.0 |
|    Cloud per RTU / year | Order no. | 79-1010-000 | | Reporter 3.0 |
| 1 SIM card | | | | Reporter 4.0 |
|    Cloud – 1 SIM-S* | Order no. | 79-1040-000 | | ComPass AX12 |
|    Cloud – 1 SIM-M** | Order no. | 79-1041-000 | | ComPass BX12 |
| **iHost Compact Software** | | | | Radio Reporter 2.0 |
| 1 licence | | | | |
|    Compact 50 (SW) | Order no. | 79-1110-000 | | |
|    Compact 250 (SW) | Order no. | 79-1120-000 | | |
|    Compact 500 (SW) | Order no. | 79-1130-000 | | |
| 1 software installation package (remote VPN access) | Order no. | 79-1160-000 | | |
| 1 technical support for 12 months | Order no. | 79-1150-000 | | |
| **iHost Compact Software / hardware** | | | | |
| 1 licence | | | | |
|    Compact 50 (SW/HW) | Order no. | 79-1110-100 | | |
|    Compact 250 (SW/HW) | Order no. | 79-1120-100 | | |
|    Compact 500 (SW/HW) | Order no. | 79-1130-100 | | |
| 1 software installation package (remote VPN access) | Order no. | 79-1160-000 | | |
| 1 technical support for 12 months | Order no. | 79-1150-000 | | |
| **iHost  Compact Software / hardware / 101** | | | | |
| 1 licence | | | | |
|    Compact 50 (SW/HW/101) | Order no. | 79-1110-101 | | |
|    Compact 250 (SW/HW/101) | Order no. | 79-1120-101 | | |
|    Compact 500 (SW/HW/101) | Order no. | 79-1130-101 | | |
| 1 software installation package (remote VPN access) | Order no. | 79-1160-000 | | |
| 1 technical support for 12 months | Order no. | 79-1150-000 | | |

*SIM-S: 2G, 3G; 10 MB data volume / month / SIM card
**SIM-M: 2G, 3G, 4G; 20 MB data volume / month / SIM card

# iHost

Remote monitoring software for SCADA

iHost Solo



iHost Pro

With iHost Solo and iHost Pro all measured values as well as fault information are transferred directly to your SCADA and are available on mobile devices at the same time. All data is stored in iHost. Installed in your premises these solutions provide you multiple options regarding the use, analysis and visualisation of data.

## iHost Solo

iHost Solo is designed for medium sized distribution networks whereas iHost Pro can handle the variety of remote devices, even of large distribution utilities.

## iHost Pro

Complete with high availability resilience the system supports all departments of your company. The system can be tailored for user groups depending on their requirements.

| Feature | iHost Solo | | | iHost Pro |
| --- | --- | --- | --- | --- |
| | Software | Software / hardware | Software/hardware/101 | |
| Hardware / Server arrangement | Single installation of the ihost software on a customer supplied, pre-installed and virtual server | Single server, Horstmann supplied | Single server, Horstmann supplied with serial interface | Single installation of the ihost software on a customer supplied, pre-installed and virtual server |
| Operating system (OS) | Microsoft Windows Server OS | Microsoft Windows Server OS | Microsoft Windows Server OS | Microsoft Windows Server OS |
| Visualisation | Web browser and SCADA | | | |
| SIM cards for smart FCI / RTU | Customer supplied SIM with private APN | | | |
| iHost licence type | One-time license fees | | | Annual license fees |
| RTU count | 100 / 500 / 1,000 | | | 2,000 / 3,500 / 5,000 |
| Limits of users / user roles | 50 / 10 | | | Unlimited / 50 |
| Maps | Yes (option) | | | |
| Notifications | Yes (e-mail / SMS) | | | |
| Historian | Yes | | | |
| Data access API | Yes | | | |
| SCADA protocols | IEC60870-5-101[1] IEC60870-5-104 DNP3 (serial)[1] DNP3 (IP) | IEC60870-5-104 DNP3 (IP) | IEC60870-5-101 IEC60870-5-104 DNP3 (serial) DNP3 (IP) | IEC60870-5-101[1] IEC60870-5-104 DNP3 (serial)[1] DNP3 (IP) |
| Simultaneous SCADA channels | 2 | | | 10 |

1) Customers server hardware must contain serial interface.

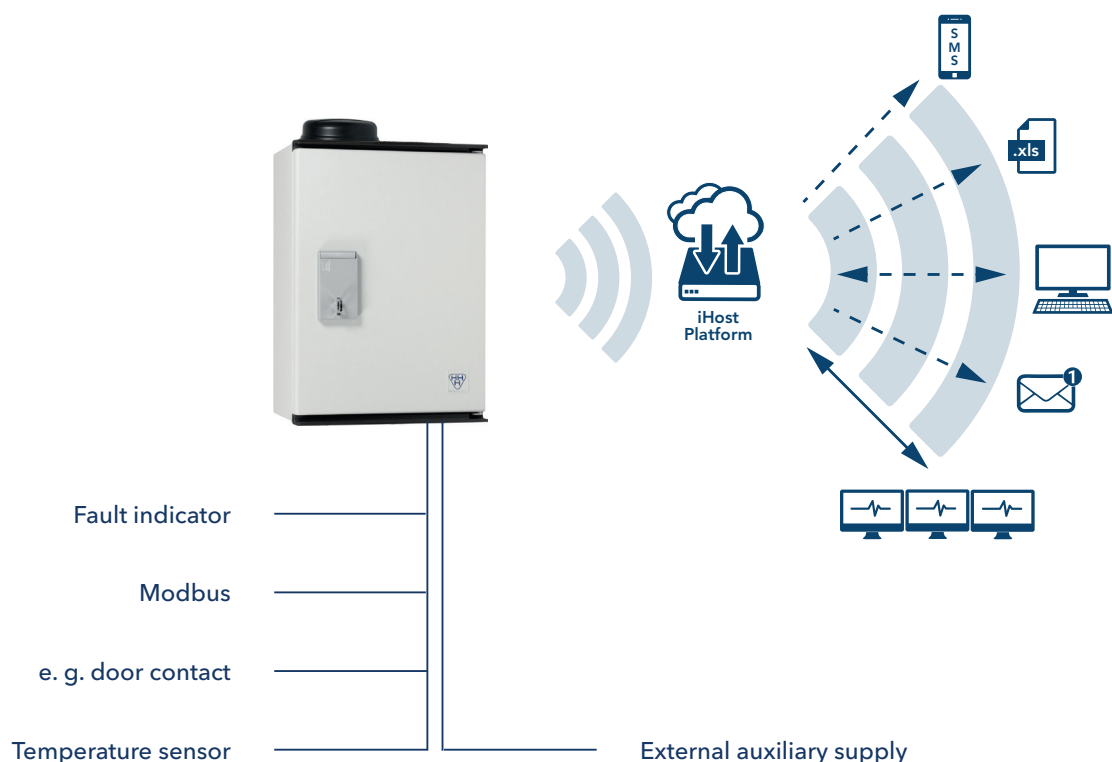| iHost Solo Software | | | | Accessories |
| --- | --- | --- | --- | --- |
| 1 licence | | | | Smart Navigator 2.0 |
| Solo 100 (SW) | Order no. | 79-1210-000 | | Reporter 3.0 |
| Solo 500 (SW) | Order no. | 79-1220-000 | | Reporter 4.0 |
| Solo 1000 (SW) | Order no. | 79-1230-000 | | ComPass AX12 |
| 1 software installation package (remote VPN access) | Order no. | 79-1260-000 | | ComPass BX12 |
| 1 technical support for 12 months | Order no. | 79-1250-000 | | Radio Reporter 2.0 |
| **iHost Solo Software / hardware** | | | | |
| 1 licence | | | | |
| Solo 100 (SW/HW) | Order no. | 79-1210-100 | | |
| Solo 500 (SW/HW) | Order no. | 79-1220-100 | | |
| Solo 1000 (SW/HW) | Order no. | 79-1230-100 | | |
| 1 software installation package (remote VPN access) | Order no. | 79-1260-000 | | |
| 1 technical support for 12 months | Order no. | 79-1250-000 | | |
| **iHost Solo Software / hardware / 101** | | | | |
| 1 licence | | | | |
| Solo 100 (SW/HW/101) | Order no. | 79-1210-101 | | |
| Solo 500 (SW/HW/101) | Order no. | 79-1220-101 | | |
| Solo 1000 (SW/HW/101) | Order no. | 79-1230-101 | | |
| 1 software installation package (remote VPN access) | Order no. | 79-1260-000 | | |
| 1 technical support for 12 months | Order no. | 79-1250-000 | | |
| **iHost Pro Software** | | | | |
| 1 licence | | | | |
| Pro 2000 | Order no. | 79-1310-000 | | |
| Pro 3500 | Order no. | 79-1320-000 | | |
| Pro 5000 | Order no. | 79-1330-000 | | |
| 1 software installation package (remote VPN access) | Order no. | 79-1360-000 | | |
| 1 technical support for 12 months | Order no. | 79-1350-000 | | |

# Reporter 4.0
Remote monitoring to iHost

Reporter 4.0

## Product features

- Detection and forwarding of digital states as generated e.g. by short-circuit or earth fault indicators, door contacts etc.
- Transfer via bidirectional data connection to iHost
- Auxiliary supply necessary

The Reporter 4.0 is used for the remote signalling of short-circuits, earth faults and additional status reports from a medium-voltage network. The information is transferred by ComPass B or ComPass B 2.0 in particular. Voltage, current, load flow direction, power factor, power, energy and frequency are also measured and monitored. The received reports are transferred to iHost through a bidirectional data connection. The Reporter 4.0 is housed in robust, weatherproof housing for wall mounting and can be configured using Windows-based PC software and iHost.

Reported short-circuits and earth faults are securely sent to SCADA via the iHost system and can be retrieved by any web-enabled device at any time. Notifications can also be received by e-mail and / or SMS.



Fault indicator

Modbus

e. g. door contact

Temperature sensor

iHost Platform

External auxiliary supply

| Technical data | Reporter 4.0 |
|---|---|
| Special features | • Routine call<br>• Automatic date and time synchronisation<br>• Transmission of signal field strength<br>• Temperature sensor<br>• Fault and status notification via SMS and / or e-mail |
| Inputs | • 16 digital inputs (hardware)<br>• 8 analogue inputs (4 – 20 mA) (hardware)<br>• 63 Modbus (digital) – 47 if hardware inputs are used<br>• 68 Modbus (analogue) – 60 if hardware inputs are used |
| Interfaces | Modbus |
| Communication | Bidirectional data connection to iHost |
| Indication | Control LEDs for data reception / connection / fault indicators |
| Power supply | |
|    Internal power supply | Back-up battery, max. 24 h |
|    External auxiliary supply | 100 – 240 V AC (50 – 60 Hz) |
| Housing | Glass fibre reinforced polyester, IP66 |
| Installation | Wall mounting |
| Temperature range | −20 to +65 °C |

Dimension drawing in catalogue on page 159, M11

| Equipment set | | | Accessories |
|---|---|---|---|
| 1 remote monitoring box | | | ComPass B |
|    Reporter 4.0 for ComPass B | Order no. | 28-7502-053 | ComPass B 2.0 / Bs 2.0 |
|    Reporter 4.0 for ComPass B 2.0 / Bs 2.0 | Order no. | 28-7502-055[1] | |
| 1 iHost solution | | | |
|    iHost Cloud | | | |
|    iHost Compact | | | |
|    iHost Solo | | | |
|    iHost Pro | | | |

1) Other options on request.

# Accessories

For short-circuit and earth fault indicators and
integrated voltage detecting systems



## Wall-mounted housings

for the installation of short-circuit and earth fault indicators as well as integrated voltage detecting systems outside the
switchgear

| | W x H x D<br>125 x 75 x 125 mm |
|---|---|
| | Order no.<br>49-9001-001 bottom cable entry<br>49-9001-002 rear cable entry |

| | W x H x D<br>125 x 175 x 125 mm |
|---|---|
| | Order no.<br>V49-9001-004-001<br>incl. earthing bar |

| | W x H x D<br>125 x 75 x 75 mm |
|---|---|
| | Order no.<br>49-9001-006 |

| | W x H x D<br>290 x 77 x 200 mm |
|---|---|
| | Order no.<br>V49-9001-007-001<br>incl. earthing bar |

## External signal lamps

for installation outside the switchgear

| 3 LEDs | Order no. |
|---|---|
| 5 m connection cable, with battery, for permanent contact | 49-0702-005 |
| 10 m connection cable, with battery, for permanent contact | 49-0702-010 |
| 15 m connection cable, with battery, for permanent contact | 49-0702-015 |

| Bicolour 3 LEDs red/green | Order no. |
|---|---|
| 3 m connection cable, with battery | 49-0706-001 |

| Bicolour 1 LED red/green | Order no. |
|---|---|
| 2 m connection cable, with battery, without fibre optic cable (see page 57) | 49-0704-001 |

# Installation system

## for Sigma D series and ComPass series

| | Order no. |
|---|---|
| Tablet for parameter setting during installation or monitoring, incl. cover, pencil, power supply and USB cable | 49-6022-010 |

# Temperature sensor PT100

| | | Order no. |
|---|---|---|
| Temperature range | −50 to +180 °C | |
| Dimension | 6 x 50 mm | |
| Cable length | 10 m (silicone, 2 ferrules) | 49-9090-013 |
| Protection degree | IP65 | |

# Fibre optic cables

| | Order no. |
|---|---|
| Fibre optic cable 3 m (standard length for short-circuit CTs) | 49-0602-009 |
| Fibre optic cable 4 m (standard length for earth fault CTs) | 49-0602-001 |
| Fibre optic cable 1,8 m (standard length for external signal lamp) | 49-6007-206 |

# Accessories for Opto series

| | Order no. |
|---|---|
| Cutting tool for fibre optic cables | 49-0109-003 |

| | Order no. |
|---|---|
| Transformer with cable for top-hat rail mounting (115 V – 230 V AC / 24 V – 48 V AC) | 49-0921-002 |

| | Order no. |
|---|---|
| Optical testing unit to excite the indicator for connection to the fibre optic cable plug | 49-0109-002 |

# Accessories for plug-in housing

| | Order no. |
|---|---|
| Disassembly clip | 49-9090-016 |
| Disassembly clip for ComPass B 2.0 / Bs 2.0 | 49-9090-017 |

| | Order no. |
|---|---|
| Spring clip suitable for 2 mm front plate thickness (standard) | 49-9090-018 |
| Spring clip suitable for 3 mm front plate thickness | 49-9090-019 |