# > PRIVA BLUE ID S-LINE SYSTEM OVERVIEW

Priva Blue ID is a freely-programmable control system for process control and monitoring. It is diverse and flexible and can be used in countless environments, e.g. in buildings.

## Characteristics

- reliable, modular and well-organised
- easy to install
- no rewiring when replacing I/O modules
- service-friendly and hot swappable
- compact construction method and DIN rail layout
- zero configuration networking
- 2-wire
- Power over Ethernet (PoE)
- fully IP based
- user-friendly operation with touch screen
- native BACnet
- open to many communications protocols
- developed with an eye to sustainability

### Modular and well organized

The Priva Blue ID system has a modular design around the controller. Both hardware lines have a well organised range of modules that reflect current practice.

Depending on the hardware line, there are modules that offer analogue outputs with and without manual override, relay outputs with and without manual override, analogue and digital inputs and serial communication. As a result, a good fit is always possible, so that the space in the panel can be used optimally.

### Unique base-module combination

Each module only fits in the corresponding type of base and has a unique colour code. Therefore, you cannot accidentally place a module in the wrong base. This simplifies replacement.

### Simple installation

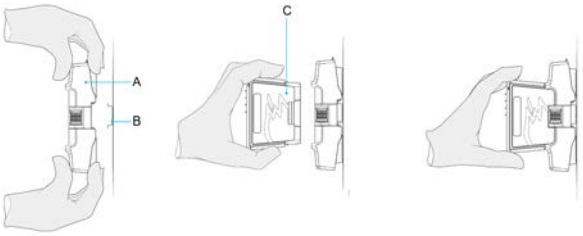
A base can simply be clicked onto a DIN rail. When doing so, the necessary internal connections are completed. If a rail is full you can easily loop through to the next rail.

The modules are addressed automatically. There is no requirement for jumpers or dip switches therefore. This will prevent mistakes.

### Simple wiring

Peripheral hardware wiring can be connected very easily. Wiring can be inserted into the default terminal block or screwed into the optional screw connectors.

### Positioning base and module




*A. base*
*B. DIN rail*
*C. module*

### Hot swappable

Because the wiring is connected to the base, there is no need to disconnect wiring when replacing modules.

A module can easily be removed from and placed back in the base without tools. This can be done live (hot swappable).

### Manual override

Some modules are available with manual override to allow manual intervention. Such a module can be installed on the base of a similar module without manual override. The system does not have to be switched off to do this. Nor do you have to change the DIN rail layout.

### Priva Blue ID Lifeline

The modules are equipped with blue LEDs. Together, these LEDs form the Priva Blue ID Lifeline. If the blue line is continuously on, the modules and bases are in the correct place according to the configuration in TC Engineer.

## Controller
The controller is the intelligent heart of the Priva Blue ID system. It handles all input and output based on control programmes loaded into the controller and modules. The programs come from Top Control (Priva's project design and implementation software).

### Powerful processor
The controller contains a powerful microprocessor which guarantees high performance. The unprecedented processing speed and computing power mesh seamlessly with the requirements of modern and integrated systems. The controller uses a reliable operating system that ensures quality and operational security and a good connection to the ICT infrastructure. And mutual communication between controllers is fast and reliable. The entire system can be accessed via a Web browser.

### Operational safety
If the power fails, the control software remains in the controller. In order to save time and (service) costs you can equip the system with new control software remotely. The controller tests this new control software before switching over to it.

### Memory card
The controller has a slot for a memory card. The memory card is used to store project properties from Top Control.

## Operation using TouchPoint
The system is operated using one or more TouchPoints (touch screens). You can mount them in the door of the cabinet, in the cabinet itself or against the wall.

You can easily expand the number of TouchPoints and use them anywhere you want. The system recognizes when a TouchPoint is connected; you don't need to install software.

### TouchPoint with PoE
If the system has PoE-ports, you can power the TouchPoints with PoE. There is no need for a separate power supply and power supply cables.

## Browsing via PC
TC Manager allows you to control all devices connected to the system from a single location. TC Manager provides a web based visualization of the building to be managed. The system supports the use of logical names for Web pages instead of addresses. In addition, both Windows browsers and Mac browsers are supported.

Operation takes place via well-arranged Web pages. Clear tabs and icons make configuration and operation quick and easy.

## Power supply and earthing
Priva supplies a number of power supplies that are suitable for any situation. A Priva power supply gives you a reliable power supply that precisely fits into your configuration.

### Galvanic isolation
The modules are powered by a system power supply (24 VDC). The terminals on the modules are galvanically isolated from the system neutral. This easily avoids earth loops.

### System power
The 24 VDC system power is distributed via the controller and then via the bases of the modules. An Priva Blue ID S-Line PI60 Power injection module is used if the modules demand more power than can be supplied via the controller.

### Field devices
The connected field devices can easily be supplied with power via the I/O modules. To do this you can connect 24 VAC and/or 24 VDC to any I/O module and easily loop through to the next module. The connections for this are called field power (FP) and field ground (FG).

## Ethernet connections
You can connect the system to a network via Ethernet using a Priva Blue ID Network module. Depending on the type, the module provides the system with one or more network connections for Ethernet, a port for PoE and a port for 2-wire.

### Power over Ethernet
An operating unit (TouchPoint) can be connected to the port for PoE, for instance. A major advantage of PoE is that it does not require a separate power supply.

### Port for 2-wire
The port for 2-wire combines Ethernet with the reuse of existing 2-wire twisted-pair cables. This allows you to use, for instance, existing and unused telephone or network cabling for the data traffic. This saves both time and money. An additional advantage is that longer distances can be bridged using 2-wire.

The system supports both bus and star network topologies.

## BACnet
As a result of BACnet support you can easily exchange input and output signals from the I/O modules with other systems and devices.

## Interfaces for field bus devices
If one or more field bus devices are being used in a project, you can connect them to a Priva Blue ID SC Communication module for serial communication and to a Priva Blue ID SN Network module for communication via Ethernet.

A communication protocol is required for each field bus device. Product interfaces and universal interfaces are available in TC Engineer for this. Examples include: product interfaces for Danfoss frequency controllers and pumps from Grundfos and Wilo, and universal interfaces for BACnet, Echelon/LonMark and M-Bus.

## Integration with other Priva systems

The Priva Blue ID system works with TC ServeCenter 8.0 and Top Integration.

## Integration with a TC 6 project

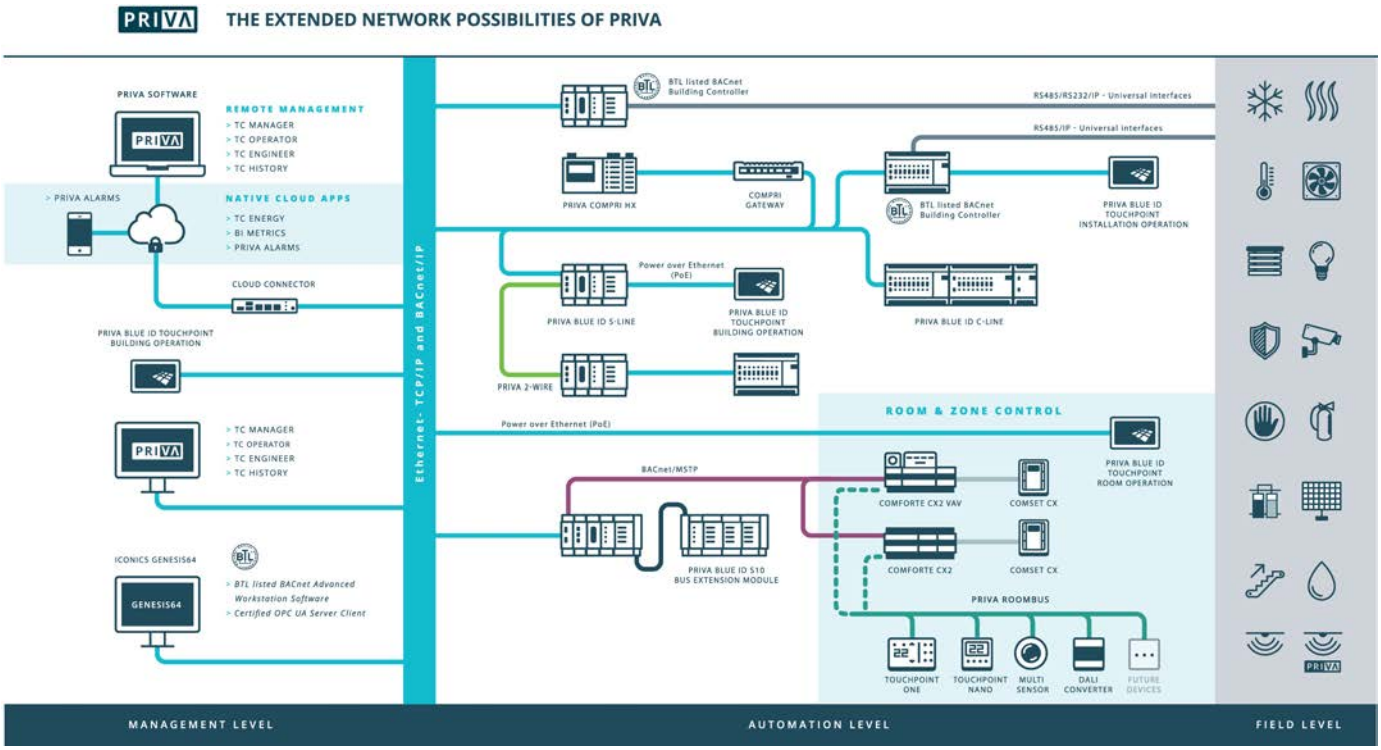
A TC 6 project or the information from a TC 6 project can be included in the Priva Blue ID system. This can be done in various ways.

The visualisation and operation of a TC 6 project can be fully integrated with the visualisation and operation of a Priva Blue ID project in TC Manager. This means that an unmodified TC 6 project can be operated alongside a Priva Blue ID project from a single environment. This is of particular importance when expanding or migrating the control system. The TC 6 project is accessed for this combined operation via a Priva Blue ID SX100L Compri Gateway.

A TC 6 project can also be converted into a Priva Blue ID project. In this way, the information (measurement and control configuration) from the TC 6 project remains available, and the engineering can be reused for a Priva Blue ID project. This saves a lot of time when converting HX controllers to Blue ID controllers. On request, the conversion can be carried out by Priva and your Priva partner.

The TC 6 project must be a TC 6.6 project with Compri HX3/4/6/8 or Comforte CX (VAV) hardware. The project must also have been generated and commissioning without errors.

## Network Priva Blue ID




## System expansion

For an expansion of the system with more I/Os, you can easily install additional I/O modules. The controller can be expanded software-wise via a licence code if necessary.

## Priva Blue ID S-Line

| Maximum configuration per controller | |
|---|---|
| I/O connection | 40 x I/O module |
| Serial communications | 4 x SC module |
| Communication via Ethernet | 1 x SN module |
| Bus expansion | 5 x BE module |
| Power supply support | 5 x PI60 module |
| Bus terminator | 1 x ST module |
| Power supply (PS module) | no maximum |
| Panel door installation kits | no maximum |
| TC Manager users | maximum of 5 simultaneously |

| Software-based expansion of controller | Number of inputs and outputs (I/O) |
|---|---|
| Priva Blue ID S-Line S10 Controller 50 | 0 ... 50 |
| Priva Blue ID S-Line S10 Controller 75 | 0 ... 75 |
| Priva Blue ID S-Line S10 Controller 150 | 0 ... 150 |
| Priva Blue ID S-Line S10 Controller 500 | 0 ... 500 |

The tables below show the maximum configurations of a project.

| Maximum configuration per project | |
|---|---|
| Operation using Touchpoint[1] | 50 |

[1] Irrespective of the type of operation.

| Numbers per project or per building section[1] specified in TC Manager for operation with TC Manager[2] | |
|---|---|
| Number of controllers (S10 or C4) | 20 |
| Number of terminal unit systems (Comforte CX, Comforte CX2, Comforte CX VAV, Comforte CX2 VAV) | 600 |

[1] With the help of the *BuildingSection* start-up parameter, TC Manager can be started with a filter by a specified building section. In this case, the numbers shown in the table will represent the numbers within the specified building section.

[2] Depending on project size and project composition. Please contact your Priva account manager for advice if the project size and project composition are greater than the specified numbers of Priva Blue ID and Comforte CX controllers.

## Priva Blue ID range

| Controller and termination | | |
|---|---|---|
| 5010001 | Priva Blue ID S-Line S10 Controller | easy to expand with more I/O via the licence code |
| 5010002 | Priva Blue ID S-Line S10.1 Controller | |
| 5010101 | Priva Blue ID S-Line S Base | base for controller and SN module |
| 5010050 | Priva Blue ID S-Line ST Termination module | last module on DIN rail, the system does not work without this module |

| Network | | |
|---|---|---|
| 5020001 | Priva Blue ID S-Line SN1 Network module | 1 Ethernet port |
| 5020002 | Priva Blue ID S-Line SN2 Network module | 1 Ethernet port and 1 port for Power over Ethernet |
| 5020003 | Priva Blue ID S-Line SN3 Network module | 2 Ethernet ports and 1 port for Power over Ethernet |
| 5020004 | Priva Blue ID S-Line SN3t Network module | 2 Ethernet ports, 1 port for Power over Ethernet and 1 port for 2-wire |

| Serial communication | | |
|---|---|---|
| 5040001 | Priva Blue ID S-Line SC44 Communication module RS485 | module for connecting RS485 devices |
| 5040002 | Priva Blue ID S-Line SC22 Communication module RS232 | module for connecting RS232 devices |
| 5040101 | Priva Blue ID S-Line SC Communication base | base for SC44 module and SC22 module |

| Power supply | | |
|---|---|---|
| 5050001 | Priva Blue ID PS70 Power supply module | 24 VDC, maximum output power of 70 W |
| 5050002 | Priva Blue ID PS120 Power supply module | 24 VDC, maximum output power of 120 W |
| 5050010 | Priva Blue ID S-Line PI60 Power injection module | 24 VDC, maximum input power of 60 W |

| Bus expansion | | |
|---|---|---|
| 5055001 | Priva Blue ID S-Line BE120 Bus extension module | connecting I/O modules, length: 120 cm |
| 5055002 | Priva Blue ID S-Line BE180 Bus extension module | connecting I/O modules, length: 180 cm |
| 5055003 | Priva Blue ID S-Line BE360 Bus extension module | connecting I/O modules, length: 360 cm |

| Inputs | | |
|---|---|---|
| **Universal inputs** | | |
| 5073001 | Priva Blue ID S-Line UI4 Universal input module | module with 4 universal inputs |
| 5073101 | Priva Blue ID S-Line UI4 Universal input base | yellow base for UI4 module |
| 5073002 | Priva Blue ID S-Line UI8 Universal input module | module with 8 universal inputs |
| 5073102 | Priva Blue ID S-Line UI8 Universal input base | yellow base for UI8 module |
| 5073003 | Priva Blue ID S-Line UI16 Universal input module | module with 16 universal inputs |
| 5073103 | Priva Blue ID S-Line UI16 Universal input base | yellow base for UI16 module |
| **Digital inputs** | | |
| 5070001 | Priva Blue ID S-Line DI4 Digital input module | module with 4 digital inputs |
| 5070101 | Priva Blue ID S-Line DI4 Digital input base | green base for DI4 module |
| 5070002 | Priva Blue ID S-Line DI8 Digital input module | module with 8 digital inputs |
| 5070102 | Priva Blue ID S-Line DI8 Digital input base | green base for DI8 module |
| 5070003 | Priva Blue ID S-Line DI16 Digital input module | module with 16 digital inputs |
| 5070103 | Priva Blue ID S-Line DI16 Digital input base | green base for DI16 module |

| Outputs | | |
|---|---|---|
| **Analogue outputs** | | |
| 5072001 | Priva Blue ID S-Line AO2 Analogue output module | module with 2 analogue outputs |
| 5072002 | Priva Blue ID S-Line AO2m Analogue output module with manual override | module with 2 analogue outputs and manual override |
| 5072101 | Priva Blue ID S-Line AO2 Analogue output base | blue base for AO2 module and AO2m module |
| 5072003 | Priva Blue ID S-Line AO4 Analogue output module | module with 4 analogue outputs |
| 5072004 | Priva Blue ID S-Line AO4m Analogue output module with manual override | module with 4 analogue outputs and manual override |
| 5072103 | Priva Blue ID S-Line AO4 Analogue output base | blue base for AO4 module and AO4m module |
| **Solid-state outputs** | | |
| 5071013 | Priva Blue ID S-Line DOS8 Solid state output module | module with 8 solid-state outputs |
| 5071113 | Priva Blue ID S-Line DOS8 Solid state output base | dark red base for DOS8 module |
| **Relay outputs** | | |
| 5071001 | Priva Blue ID S-Line DOR4 Relay output module | module with 4 relay outputs |
| 5071002 | Priva Blue ID S-Line DOR4m Relay output module with manual override | module with 4 relay outputs and manual override |

| Outputs | | |
|---|---|---|
| 5071101 | Priva Blue ID S-Line DOR4 Relay output base | light red base for DOR4 module and DOR4m module |
| 5071003 | Priva Blue ID S-Line DOR8 Relay output module | module with 8 relay outputs |
| 5071004 | Priva Blue ID S-Line DOR8m Relay output module with manual override | module with 8 relay outputs and manual override |
| 5071103 | Priva Blue ID S-Line DOR8 Relay output base | light red base for DOR8 module and DOR8m module |

| Operation | | |
|---|---|---|
| 5060001 | Priva Blue ID TouchPoint | operating unit with touchscreen |
| 5060002 | Priva Blue ID TouchPoint Flush | operating unit with recessed touchscreen |
| 5060101 | Priva Blue ID Wall bracket | frame for mounting TouchPoint on wall |
| 5060103 | Priva Blue ID Panel bracket Flush | frame for integrating TouchPoint Flush into panel |
| 5060104 | Priva Blue ID TouchPoint Flush Back Cover (for panel mounting) | protective cover for TouchPoint Flush |

| Panel door integration set | | Integration into the control panel |
|---|---|---|
| 5090213 | Priva Blue ID S-Line Panel door bracket+cover 466 mm - single door 600 x 380-1000 mm | width: 600 mm, height: 380 – 1000 mm |
| 5090223 | Priva Blue ID S-Line Panel door bracket+cover 666 mm - single door 800 x 1000 mm | width: 800 mm, height: 1000 mm |
| 5090232 | Priva Blue ID S-Line Panel door bracket+cover 379 mm - double door (left) 1000 x 1000-1200 mm | width: 1000 mm, height: 1000 – 1200 mm, left-hand door |
| 5090233 | Priva Blue ID S-Line Panel door bracket+cover 348 mm - double door (right) 1000 x 1000-1200 mm | width: 1000 mm, height: 1000 – 1200 mm, right-hand door |

| SX100.1 and Compri Gateway | | |
|---|---|---|
| | Priva Cloud Connector v2 | embedded PC for Priva Cloud services |
| 5200011 | Priva Blue ID SX100.1 | embedded PC for Top Control 6 and 8 historical data (TC History, TC History Proxy and TC LAN Manager) |
| 5200012 | Priva Blue ID SX100.1L Compri Gateway | gateway to Compri projects from Priva Blue ID |

## General specifications of controllers, modules and bases

| Housing | |
|---|---|
| IP code | IP30 (IEC 60529) |
| Flammability class | V-0 (UL 94) |
| Recycle code | 7 |
| Colour | release surfaces of module and DIN rail release: blue (RAL5013)<br>other parts: white (RAL9003) |
| Device type | open device, for use in a pollution degree 2 environment |

| Installation and connection | |
|---|---|
| Installation | in control panel:<br>• accessible to authorized personnel only<br>• can be clicked onto the DIN rail that is positioned horizontally or vertically on the mounting plate<br>Note: The controller, SC module and SN module may only be mounted horizontally.<br>in panel door integration in control panel:<br>• accessible to authorized personnel only<br>• can be clicked onto the DIN rail that is positioned horizontally on the mounting plate |
| DIN-rail type | 35 x 7.5 mm (height x depth), in accordance with IEC 60715 |
| Maximum width of I/O modules, bus extension modules and controller | 20 m |

| Environment | |
|---|---|
| Permitted temperature inside control cabinet during normal operation with horizontally mounted modules only (without airflow) | 0 ... 50 °C |
| Permitted temperature inside control cabinet during normal operation with vertically mounted modules only (without airflow) | 0 ... 35 °C |
| Permitted temperature during transport and storage | -20 ... 70 °C |
| Permitted relative ambient humidity | 10 % ... 95 % (non-condensing) |
| Shock and vibration resistance | IEC 61131-2 |
| Installation category | II |

| Legislation and standards | | |
|---|---|---|
| Canada / USA |  | • UL 508:2005 (industrial control equipment)<br>• UL 916:2007 (energy management equipment)<br>• UL 61010-1:2004 (measurement and control equipment)<br>• CSA C22.2 No 14-10: 2011 (industrial control equipment)<br>• CSA C22.2 No 205-12: 2012 (signal equipment)<br>• CSA C22.2 No 61010-1-04 (measurement and control equipment) |
| | EMC | • complies with 47 CFR Part 15 Subpart B, Class B (FCC Rules)<br>Operation is subject to the following two conditions:<br>1. This system may not cause harmful interference.<br>2. This system must accept any interference received, including interference that may cause undesired operation.<br>• ISM-system, complies with Canadian ICES-001 |
| Europe |  | • Low voltage directive 2006/95/CE:<br>• EN 61010-1:2010 (measurement and control equipment)<br>• EMC directive 2004/108/EC:<br>• EN 61326-1:2006 (measurement and control equipment)<br>• EN 61000-6-2:2005 (generic immunity standard)<br>• EN 61000-6-3:2007 (generic emission standard)<br>• RoHS directive 2011/65/EU |
| |  | complies with the WEEE directive 2002/96/EC |

| Legislation and standards | | |
|---|---|---|
| International | | • The Priva Blue ID S-Line S10 Controller is BTL registered at BACnet International.<br>• The Priva Blue ID S-Line S10 Controller is BACnet certified in accordance with ISO 16484-5/6.<br>• Priva is a member of the BACnet Interest Group Europe. |

## General specifications of TouchPoints

| Housing | Priva Blue ID TouchPoint | Priva Blue ID TouchPoint Flush |
|---|---|---|
| Installation | with magnets on metal surface or wall-mounted in frame | flush-mounted[1] |
| IP code | IP30 | IP66 |
| Housing type (NEMA 250) | 1 | 4X, indoor use only |
| Flammability class | V-0 (UL 94) | |
| Recycle code | 7 | |
| Device type | open device, for use in a pollution degree 2 environment | |

[1] For an installation in a door or wall of a control cabinet that must comply with CSA C22.2 no 94.1 or UL 50, the Priva Blue ID TouchPoint Flush Back Cover (for panel mounting) must be mounted.

| Environment | |
|---|---|
| Permitted temperature inside control cabinet during normal operation | 0 ... 50 °C |
| Permitted temperature during transport and storage | -20... 70 °C |
| Permitted relative ambient humidity | 10 % ... 95 % (non-condensing) |
| Shock and vibration resistance | IEC 61131-2 |
| Installation category | II |

| Legislation and standards | | |
|---|---|---|
| Canada / USA |  | • UL 508:2005 (industrial control equipment)<br>• UL 916:2007 (energy management equipment)<br>• UL 60950-1:2011 (information technology equipment)<br>• CSA C22.2 No 14-10: 2011 (industrial control equipment)<br>• CSA C22.2 No 205-12: 2012 (signal equipment)<br>• CSA C22.2 No 60950-1-07 (information technology equipment) |
| | EMC | • complies with 47 CFR Part 15 Subpart B, Class B (FCC Rules)<br>Operation is subject to the following two conditions:<br>1. This device may not cause harmful interference.<br>2. This device must accept any interference received, including interference that may cause undesired operation.<br>• digital apparatus, complies with Canadian ICES-003, Issue 4, Class B |
| Europa |  | • Low voltage directive 2014/35/EU<br>  • EN 60950-1:2006 (information technology equipment)<br>• EMC directive 2014/30/EU<br>  • EN 55032:2015, Class A of Class B [1] (multimedia equipment)<br>  • EN 55024:2010,IDT (information technology equipment)<br>  • EN 61000-6-2:2005 (generic immunity standard)<br>  • EN 61000-6-3:2007 (generic emission standard)<br>• RoHS directive 2011/65/EU |
| |  | complies with the WEEE directive 2002/96/EC |

[1] The TouchPoint complies with Class B when a ferrite bead (type: Wurth Elekronik 74271222 or equivalent) is placed around the network cable and power supply cable, as close as possible to the TouchPoint. Loop the cables through the ferrite bead twice.

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