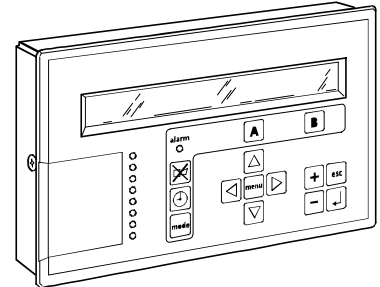DESIGO 30

Remote operator terminal BCO

for more then one HVAC systems

Operator terminal for remote operation of several HVAC systems incorporating DESIGO 30.
- **Optimum design for control panel installation.**
- **Display several measured values**
- **Display and adjust several setpoints**
- **Alarm indication**
- **Switch systems on and off**
- **Modify 7-day and date programmes**

Use / Functions

The BCO remote operator terminal is suitable for all RCK... controllers and for the RCH1. It is not yet available for use with the RCS... or RCH2 controllers.

The BCO remote operator terminal is connected to the LON bus, so allowing user access to the data in the DESIGO 30 devices (with a maximum of ten devices in each subnet).

Menus or data points are selected with the navigation keys. The selected item (indicated by an arrow in the display) can be modified with the keys **+** and **–** . Modified values are accepted with **↵** and operation is terminated with **esc** .
Values (e.g. the measured value and setpoint) are assigned to the hot keys **A** and **B** in the engineering phase.

The keys for general operation can be used to jump directly to the relevant menus, allowing you to adjust the plant status or the time switch, or to acknowledge alarms.

The LEDs give a visual indication of the output values of a controller. The controller value assigned to each LED can be written in the labelling space provided.
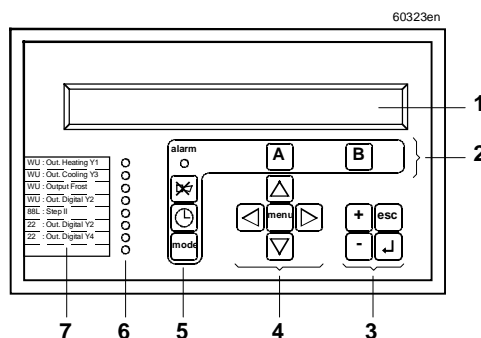
Key
1   Display
2   Hot keys
3   Editing keys
4   Navigation keys
5   Keys for general operation
6   8 status LEDs
7   Labelling spaces

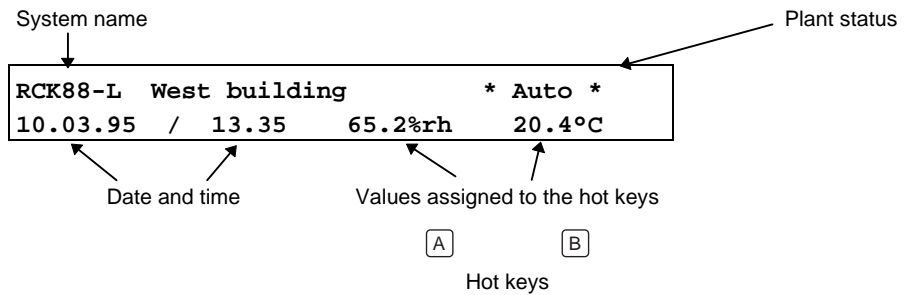|	
Mounting / Installation	This BCO remote operator terminal is designed primarily for installation in control panels. The operator terminal is wired directly into the LON network and an AC 24 V power supply. Alternatively, use the cable supplied, connecting it directly to the service socket of a controller (for LON bus communications and power). The BCO has two identical sockets, one for power / LON connection and the other for connecting an additional service terminal or as a LON extension connection. *See Manual R21 section 04.20 for detailed installation instructions.*
Accessories	– Connecting cable – Fixing wire clip (see section "Dimensions") – BCO User manual R26
Commissioning / Engineering	The BCO is prepared for operation using the APED 30 service software. The possible settings are as follows: – Allocation of two data points each to the A and B hot keys – Allocation of the values to be displayed by LED – Labelling of the values – Defining the target subnet *Commissioning: see Manual R21 section 06.21* *Engineering: see Manual R21 section 06.22*
Menu tree	Operation takes place in three basic stages: – Start-up – Device list (Network operation) – BCO settings
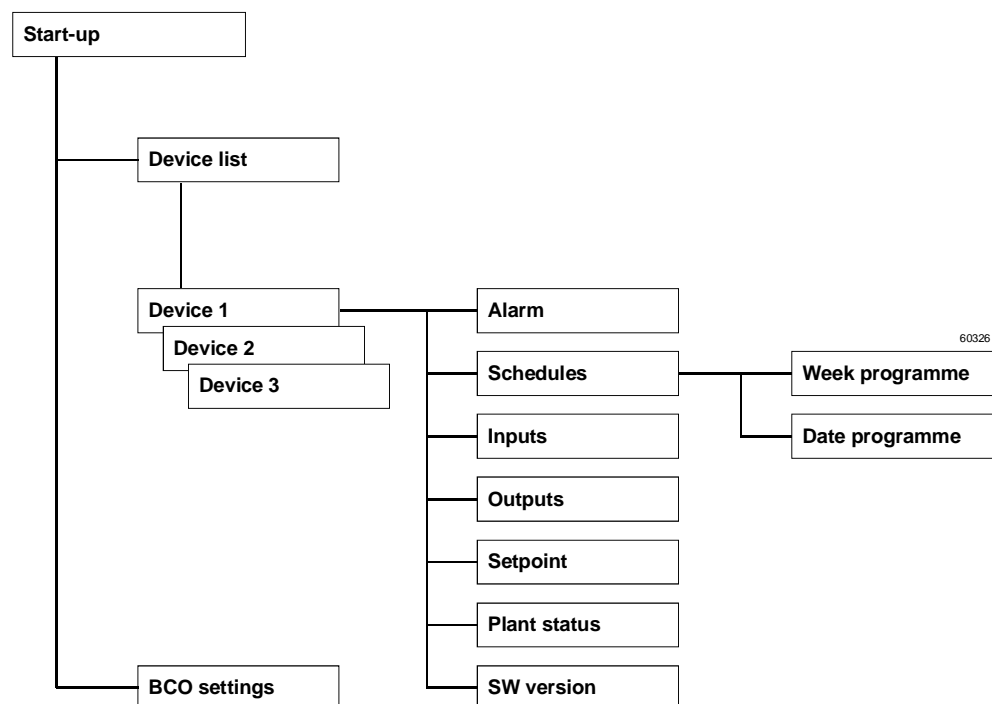
Start-up

The Start-up menu displays all the main values from the most recently selected system.

Notes on the display

For plant values which are not available, two dashes (– –) appear in the display.
If a value has been manually overridden with the BCS or the APED 30 software, this is indicated with the symbol ➤ directly in front of the value.
In the event of an alarm, the plant status display is replaced by 'ALARM'.

System name   Plant status

```
RCK88-L  West building          * Auto *
10.03.95  /  13.35     65.2%rh     20.4°C
```

Date and time   Values assigned to the hot keys

A   B

Hot keys

Device list /
BCO settings

From the Start-up menu, the user can access the Device list / BCO settings menu by pressing the menu key. This allows the following activities:
– Selection of a controller from the device list
– Modification of the BCO settings

```
-> Device list
   BCO settings
```

Controller operation

A list of all the controllers connected to the bus is displayed on start-up or after selection of the Device list menu:

```
-> RCK88-L West building                    ↑
   RCK82  Warehouse ventilation ALARM       ↓
```

When a controller is selected from this list, the display switches to a menu containing the controller-specific data. This is the menu used to read and/or modify all data related to the selected controller. Depending on the controller type, up to seven controller-specific menus can be displayed.

```
-> Alarm   Schedules   Inputs   Outputs
   Setpoint  Plant status   SW version
```

Time programmes

The Schedules menu (only for controllers with time switches) can be used to enter the 7-day and date programme.

– 7-day programmes

```
-> Monday      07:00    Stage I            ↑
   Monday      17:00    Off                ↓
```

– Date programmes

```
-> 01.10.96
   24.12.96  -  03.01.97
```

Indication / Display

The display comprises two lines of 40 characters each.

LEDs

The eight available LEDs indicate the current controller status. A maximum of two analogue and six digital outputs, or eight digital outputs can be indicated.
The intensity of the analogue value LEDs ranges from 'Off' to full brightness. For digital data points, the LED is 'Off' for Inactive and 'On' for **active**.
A specific data point from a given controller can be assigned to each LED in the engineering phase. An LED which has not been engineered in this way remains off.

Alarm LED		In the event of an active alarm, the alarm LED remains 'On' steadily. It goes out when there are no further active alarms.

Operation
Hot keys

A B	Any two data points (A1 and A2 / B1 and B2) from a controller can be assigned to each of the keys **A** and **B**.
	The values A1 and B1 (directly above the **A** and **B** keys in the display) appear in the Start-up display. When one of the two keys is operated, the display changes to show the second value (A2 or B2), which is marked with an asterisk (*) and remains in the display for five seconds. Unless access was denied during engineering (in which case modification is not possible), the value can be adjusted with the **+** and **−** key before the 5-second display period elapses. Any value not defined during engineering will be indicated by two dashes (– –). Holding down the A or B key for two seconds produces a display showing the device and object from which the value assigned to A1/A2 or B1/B2 originates. *The hot keys are typically used for measured value and setpoint.*

Editing keys

+ −	These keys can be used to enter or modify values. Holding either of the two keys down for approximately two seconds accelerates the rate at which the value changes.
↵	The **enter** key is used to acknowledge and transfer a new or modified value (mode, setpoint etc.) and to activate a menu option.
esc	This key is used to move back through the menu structure to the previous level. It may also be used to abandon an input procedure without making any changes. Pressing this key repeatedly always leads back to the *Start-up* display.

Navigation keys

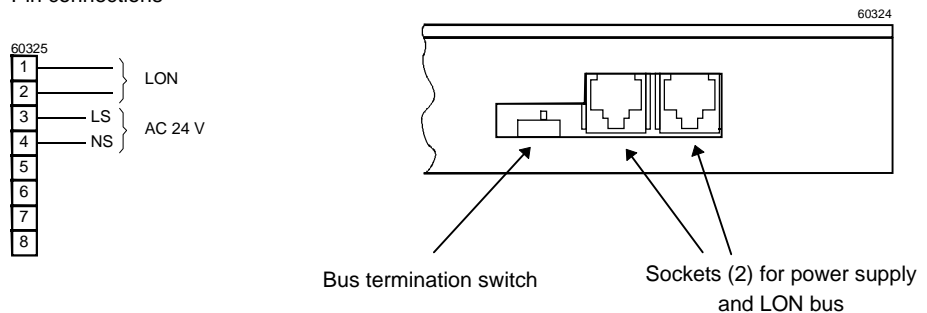|	
◁ ▷	These cursor control keys are used to select an option from a menu, or to select an input field.
△ ▽	These cursor control keys are used to move to the next screen of a menu or display where there is more information than can be displayed on the available two lines.
menu	This key allows the user to move from the *Start-up* display to the *Device list / BCO settings* main menu. The same key can be used to jump from any menu to the *Start-up* display.

Keys for general operation

mode	This key is used to jump from any display directly to the Plant status menu, but only if there are no unacknowledged alarms, as these cause the operator terminal to switch to the *Alarm summary*. The alarm must be acknowledged before the user can return to the Plant status menu.
🕐	The mode key allows a jump from any display directly to the *Schedules* menu. Here too, any unacknowledged alarms take precedence (see above). This function is active only in controllers with a time switch.
🔕	In the event of an unacknowledged alarm, this key can be used to disable the audible alarm signal. The relevant *Alarm summary* is then displayed. The alarm can be acknowledged in this menu, which also provides a more detailed description of the alarm.

Technical data

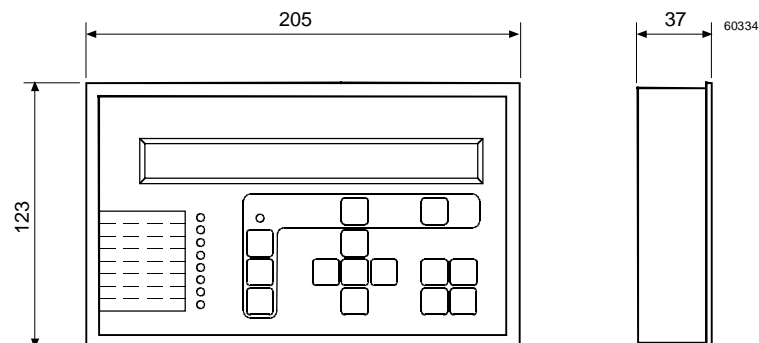|		
Power supply	Supply voltage	Low voltage (SELV)
	Nominal voltage	AC 24 V, 50/60 Hz
	– Admissible voltage tolerance	+15/–10 %
	Power consumption	Max. 100 mA
Connection	Connection	Two RJ45 sockets
	Service cable	3 m, with RJ45 connection at each end (comms and power)
Communication	LON with BACnet protocol	
	– Connection	2-wire (comms only without AC 24 V)
	– Max. cable length	1100 m (unscreened)
	– Bus termination	On front, set by switch
Weight / Dimensions	Weight excluding packaging	0.64 kg
	Dimensions (W x H x D)	205 x 123 x 37 mm
General ambient conditions	Usage	For indoor use
	Temperature range	
	– Operation	5 ... 45 °C
	– Storage	–25 ... 70 °C
	Ambient humidity	10 ... 90 %rh, non-condensing
Safety	Product safety	EN 61010-1
	Electrical safety	SELV-E (PELV to IEC 364-4-41)
	Conformity	This product meets the requirements for **CE** marking

Connection

Pin connections

Bus termination switch

Sockets (2) for power supply
and LON bus

Dimensions

All dimensions in mm

Fixing wire clip

34　3

60337

1...3

Cut-out in control panel door

201　60336

119

Replaces R21-06.20

Siemens Building Technologies
Landis & Staefa Division