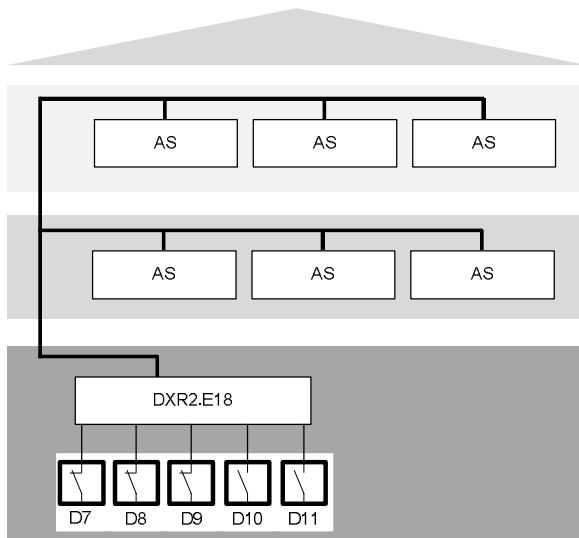




- **Emergency control receives emergency signals (e.g. fire) via digital inputs**
- **HVAC emergency function with forced shut down (supply air)**
- **Option:**
  - **HVAC smoke extraction with exhaust air, pressure build up with supply air or purge with exhaust air and supply air**
  - **Emergency lighting function: Forced positioning command for lighting (on)**
  - **Emergency shading function: Forced position for shading (open)**

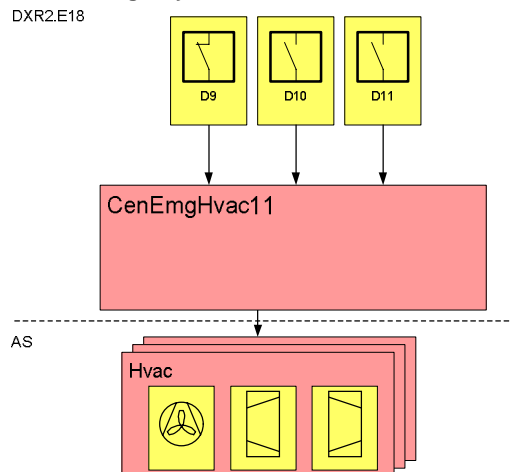
Plant diagram



DXR2.E18	Automation station for the emergency functions	D9	Digital signal HVAC forced switch-off
AS	Automation station in the room	D10	Digital signal HVAC forced smoke extraction (exhaust air)
D7	Digital signal shading (open)	D11	Digital signal HVAC forced pressure build up (supply air)
D8	Digital signal lighting (on)		

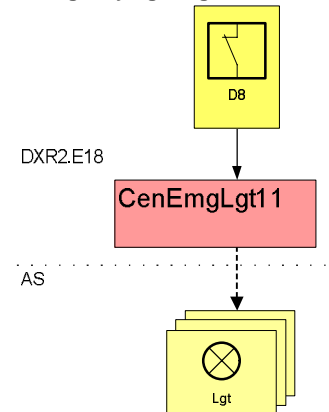
Function diagrams

HVAC emergency mode



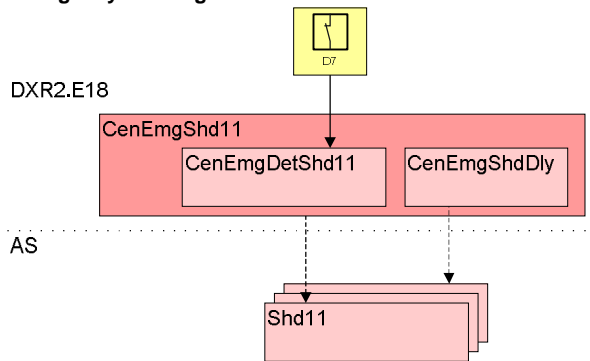
CenEmgHvac11 Emergency HVAC function  
HVAC HVAC room function

Emergency lighting function



CenEmgLgt11 Emergency lighting  
Lgt Lighting in the rooms

**Emergency shading function**



CenEmgShd11	Emergency shading function	CenEmgShdDly	Delays for the emergency shading f function
CenEmgDetShd11	Emergency function to read the digital commands	Shd11	Shading control in the rooms

**Description of functions**

**Basic function**

- An HVAC emergency shut down can be triggered during an emergency over a digital command for a maximum of 2 supply groups. The commands are executed at the highest priority and cannot be locally overridden in the room or from another central operation.
- The applicable electrical or mechanical installation can only be manually or automatically operated after this digital command is reset.
- The HVAC emergency shut down can be tested via a test function.

**Options**

- During an emergency, additional digital commands can:
  - generate HVAC negative pressure in the rooms. This can support smoke extraction.
  - generate HVAC positive pressure in the rooms. This can support smoke extraction.
  - generate HVAC purge in the rooms. This can support smoke extraction.
  - switch on all luminaires.
  - move all facades to a configurable position. Facade control can be enabled on 3 additional groups with a delay on large buildings.

**Variants**

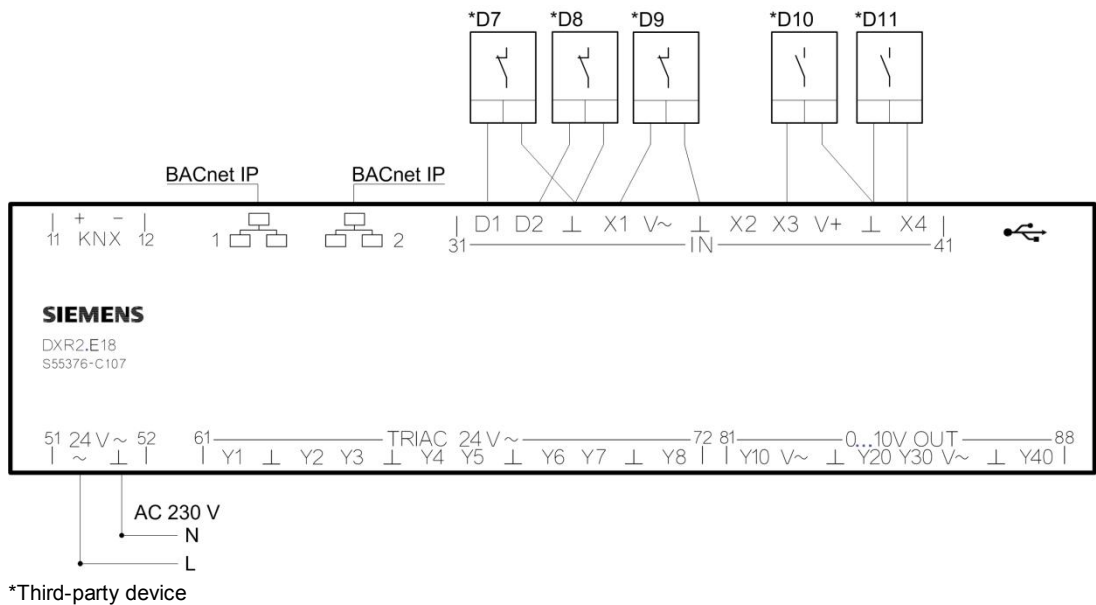
- A third-party device can write the digital commands for emergency forced control of HVAC, lighting, and blinds via a BACnet reference.

Siemens devices	Key	Device	Datasheet	Product no.	No.
	DXR2...	Compact room automation station, BACnet/IP, 24 V, DIN housing, 2 DI, 4 UI, 8 DO Triacs, 4 AO 0...10 V	N9205	DXR2.E18-101A/ DXR2.E18-102A	1

Third-party devices	Key	Device	No.
	D9	Digital contact for HVAC forced emergency shut down supply air	1

Optional third-party device	Key	Device	No.
	D7	Digital contact for forced emergency positioning for shading	1
	D8	Digital contact for forced emergency positioning command for lighting	1
	D10	Digital contact for HVAC forced smoke extraction (exhaust air)	1
	D11	Digital contact for HVAC forced pressure build up (supply air)	1

Connection diagram



Application configuration

	Equipment	Values/range	Template settings
On-board input	Fire detector 1	None D1; Normally closed X1; Normally closed	X1; Normally closed

Optional configuration

	Equipment	Values/range	Template settings
On-board input	Smoke extraction with exhaust air 1	None D1; Normally open X3; Normally open	X3; Normally open
	Smoke extraction with supply air 1	None D2; Normally open X4; Normally open	X4; Normally open
	Emergency detector for shading	None D1; Normally closed X3; Normally closed	D1; Normally closed
	Emergency detector for shading	None D2; Normally closed X4; Normally closed	D2; Normally closed
Central shading function	Emergency switch-on delay 1	None Active	None
	Emergency switch-on delay 2	None Active	None
	Emergency switch-on delay 3	None Active	None

**Engineering**


- The ABT Site engineering tool is required to engineer DXR2 automation stations.
- See the Siemens Download Center [www.siemens.com/bt/download](http://www.siemens.com/bt/download) for the latest application configurations and workflow tutorials.
- HVAC emergency function matrix:

Digital contact for HVAC emergency shut down (D9)	Digital contact for HVAC Forced smoke extraction with exhaust air (D10)	Digital contact for HVAC Forced pressure build up with supply air (D11)	Resulting HVAC emergency function in the rooms
On	Off	Off	Emergency shut down of all rooms connected to the group with VAV or fan coil plants
On	On	Off	Maximum negative pressure in all rooms connected to the group with VAV or fan coil plants
On	Off	On	Maximum positive pressure in all rooms connected to the group with VAV or fan coil plants
On	On	On	Maximum purge in all rooms connected to the group with VAV or fan coil plants

It is the life safety and security management, and not Desigo room automation, that is responsible for fire detection and evaluation of the correct HVAC emergency operating modes for a fire section and primary plants.

The configurable Desigo room automation can switch all available luminaires to a specified value at the highest priority during an emergency. This is not emergency lighting or evacuation route control, but rather is only a supporting measure during an emergency to supply all rooms with the maximum brightness.

The configurable Desigo room automation does not support emergency lighting control with service and test functions for decentralized or centralized batteries.

	<p><b>⚠ WARNING</b></p>
	<p><b>Desigo TRA is not approved by fire authorities.</b>                  Fire can result in death or serious injury.                  As a consequence, TRA fire solutions are only used on non-critical applications with a limited risk to health and risks,                  For critical application, an individual permit by the fire authorities on site must be acquired for a specific project.</p>