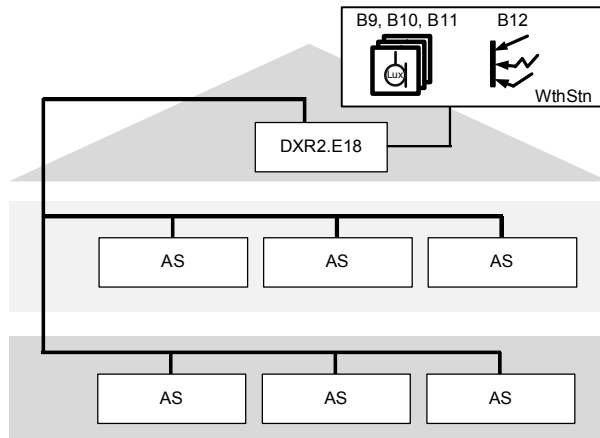




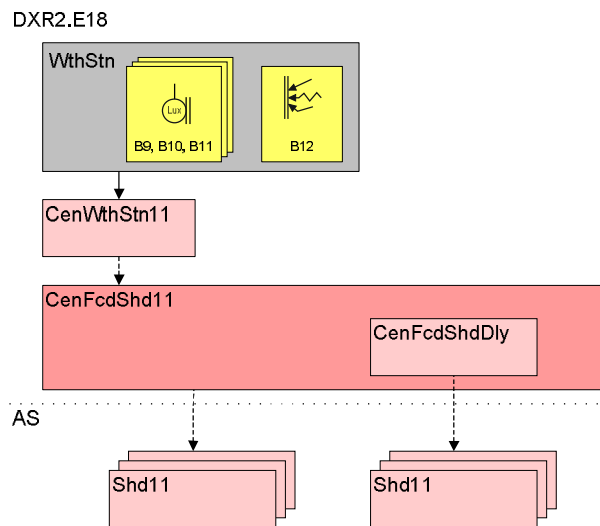
- Central facade control to protect room users against glare and to protect the room from overheating
- Acquisition of present solar radiation with:
 - 3 oriented brightness sensors (east, south, west) for anti-glare protection
 - Global radiation sensor for protection against overheating
- Derive the position of the sun on the facade using a building's global positioning data
- Delay function for control of large facades

Plant diagram



DXR2.E18	Automation station for the facade functions	B9, B10, B11	Oriented brightness sensor
AS	Automation station in the room	B12	Global solar radiation sensor
WthStn	Weather station		

Function diagrams



CenFcdShd11	Facade control function	CenWthStn11	Weather station function
CenFcdShdDly	Delay functions (3 x) for facade control	Shd11	Room functions for local facade control

Description of functions

Basic function

- Measurement of present weather data for:
 - Brightness (east, south, and west)
 - Global radiation
- The automatic function for facade control protects the room occupant from glare.
- Thermal protection function protects the room against overheating.

Options

- The room occupant can locally override facade products at any time with room operating.
- Facade control can be enabled on 3 additional groups with a delay on large buildings.

Variants

- Brightness can be measured in other directions (east, north, and west) on projects that located south of the Equator.
- 4 brightness sensors (north, east, south, and west) can be used on projects near the polar circles.

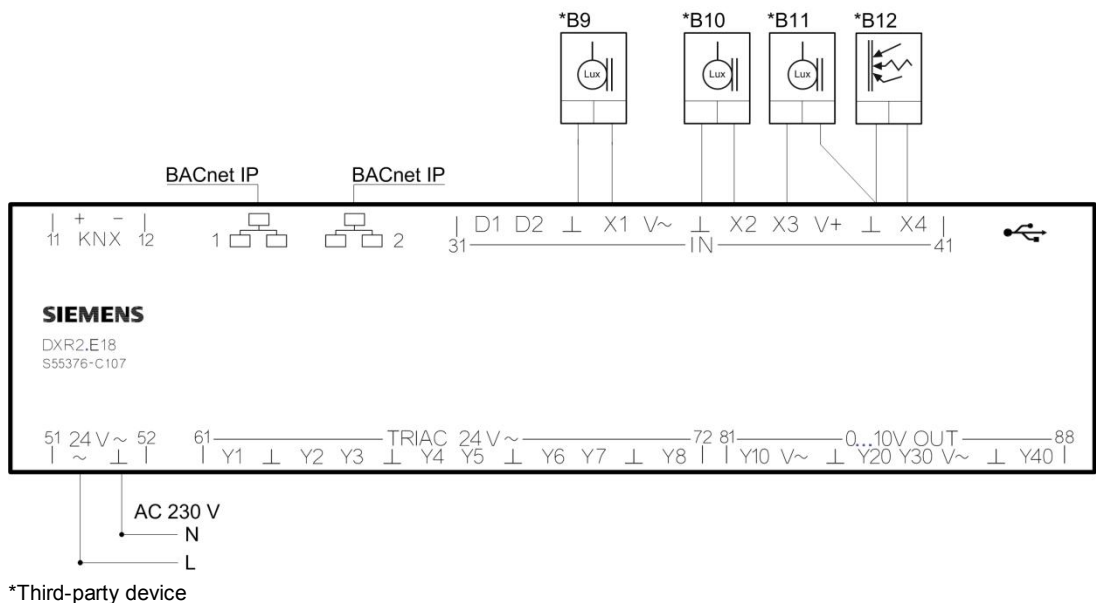
Siemens devices

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.
B9, B10, B11	Brightness sensor, 0...10 V	3
B12	Global radiation sensor, 0...10 V	1

Connection diagram



Application configuration

	Equipment	Values/range	Template settings
On-board input	Outside brightness east	None X1; 0 ... 10 V	X1; 0 ... 10 V
	Outside brightness south	None X2; 0 ... 10 V	X2; 0 ... 10 V
	Outside brightness west	None X3; 0 ... 10 V	X3; 0 ... 10 V
	Solar radiation	None X4; 0 ... 10 V	X4; 0 ... 10 V

Optional configuration

	Equipment	Values/range	Template settings
Central shading function	Facade switch-on delay 1 east	None Active	None
	Facade switch-on delay 2 east	None Active	None
	Facade switch-on delay 3 east	None Active	None
	Facade switch-on delay 1 south	None Active	None
	Facade switch-on delay 2 south	None Active	None
	Facade switch-on delay 3 south	None Active	None
	Facade switch-on delay 1 west	None Active	None
	Facade switch-on delay 2 west	None Active	None
	Facade switch-on delay 3 west	None Active	None

Variants Configuration

	Equipment	Values/range	Template settings
On-board input	Outside brightness north	None X4; 0 ... 10 V	None

Standard values

	Parameter	Values/range	Template settings
Central facade shading east	Northern latitude		47.17 degrees
	Eastern longitude		8.52 degrees
	Azimuth angle of the facade		90 degrees
	Facade incline		90 degrees
Central facade shading south	Northern latitude		47.17 degrees
	Eastern longitude		8.52 degrees
	Azimuth angle of the facade		180 degrees
	Facade incline		90 degrees
Central facade shading west	Northern latitude		47.17 degrees
	Eastern longitude		8.52 degrees
	Azimuth angle of the facade		270 degrees
	Facade incline		90 degrees

Engineering

- The ABT Site engineering tool is required to engineer DXR2 automation stations.
- See the Siemens Download Center www.siemens.com/bt/download for the latest application configurations and workflow tutorials.
- Measurements for anti-glare protection are typically made in three cardinal points since most commonly available brightness sensors have a horizontal coverage of 90°.

In general:

Building position north of the Equator	Sensor orientation to the east, south, west
Building position south of the Equator	Sensor orientation to the east, north, west

A more detailed consideration of the sensor orientation is required if the project is located near the artic circles. On common Internet search machines, a search for "suncalc" provides useful information on the simple definition of sensor orientation.
