Device Profile
Quick Reference Guide
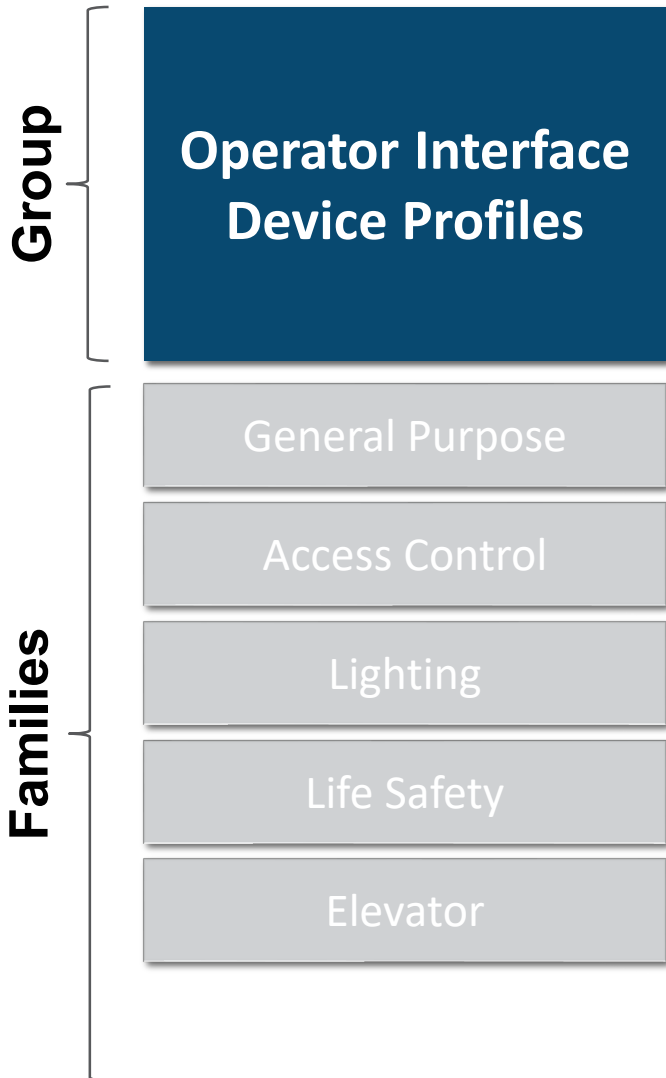
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Operator Interface Device Profiles

BACnet
International
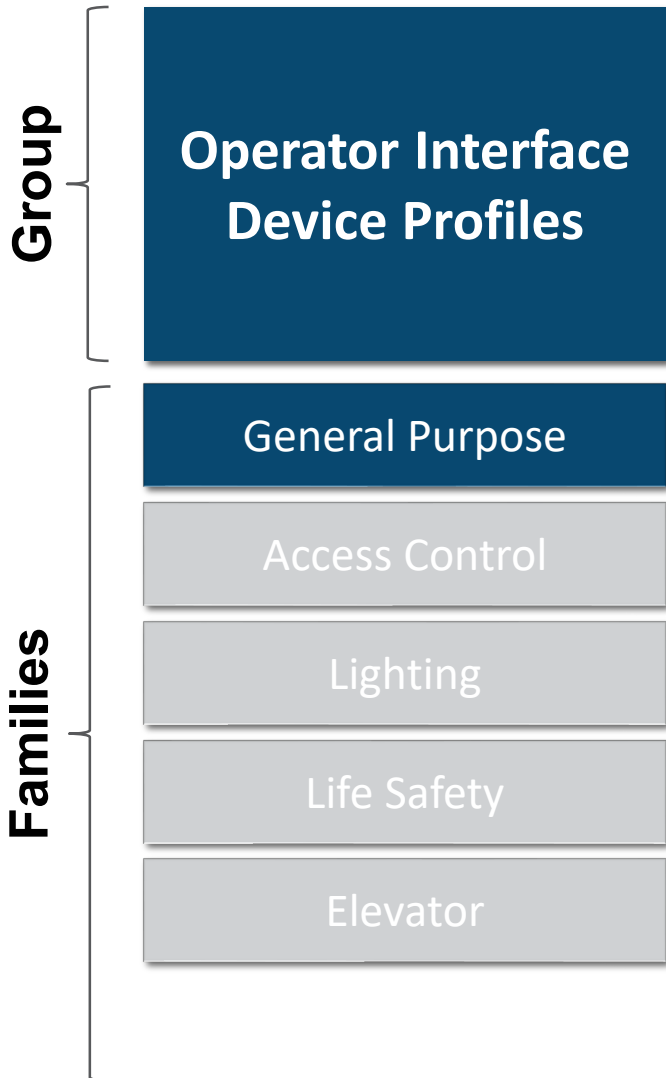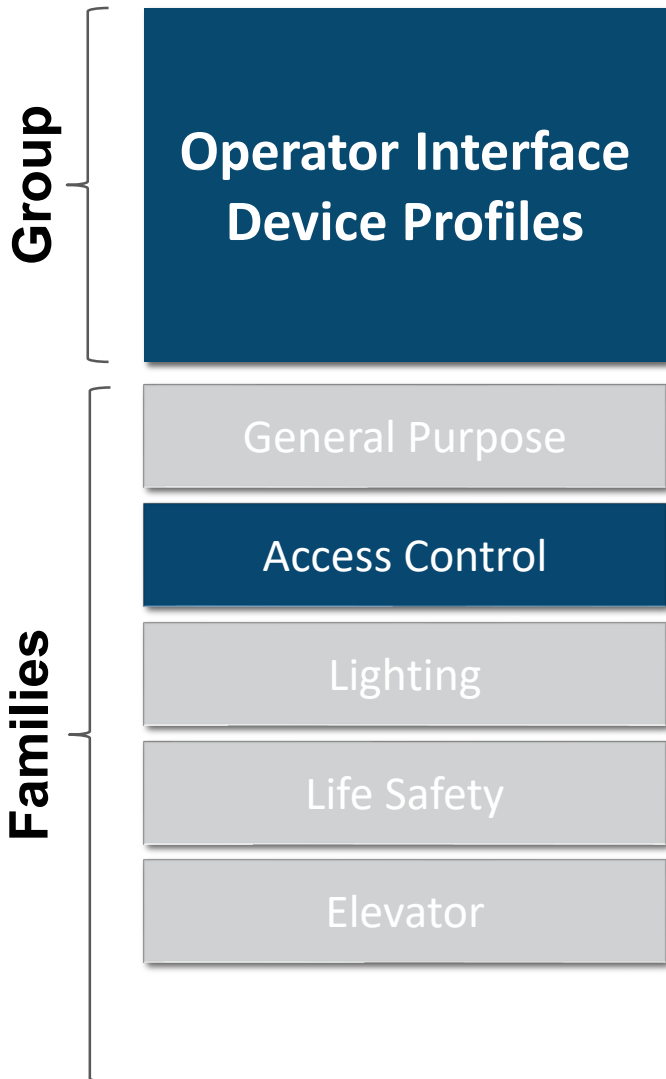
Operator Interface Device Profiles define the minimum requirements for workstations and other user or operator interface devices. They are considered client devices. Some common characteristics are:

Group

| Operator Interface Device Profiles |

Families

| General Purpose |
| Access Control |
| Lighting |
| Life Safety |
| Elevator |

- Mainly support **A-side** functionality

- **B-side** functionality only for the device and objects of the workstation itself (at least Device object)

- **Cross-Domain workstation** (B-XAWS) including all advanced workstations **except life safety,** due to regulation requirements.

- **Advanced workstations support** all properties and functionalities of a selected set of object types. They are intended to fully view, modify and manage the respective aspects of a BACnet system.

- **Regular workstations** support a defined set of important properties and functions. They are intended for regular management of systems.

- **Operator displays** support a minimal set of properties and functions for daily operator purposes.
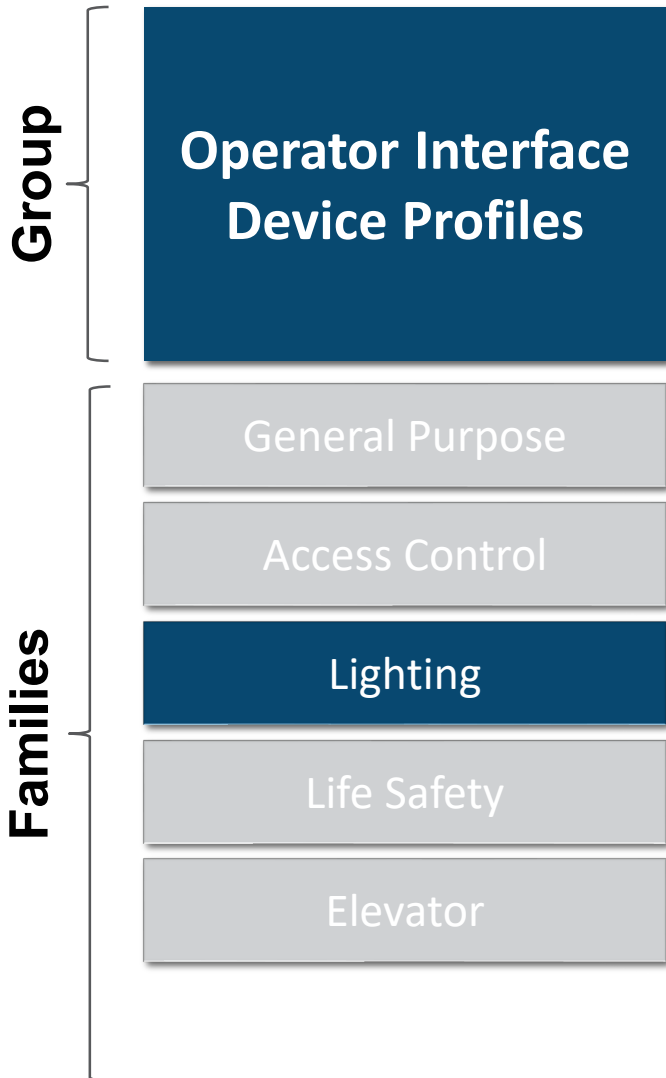
Operator Interface Device Profiles

Operator Interface Device Profiles

Group

General Purpose

Access Control

Lighting

Life Safety

Elevator

Families

General Purpose Operator Interface Profiles support a basic set of general purpose objects, the HVAC relevant objects, and have minimal support for lighting specific objects and services.

- **B-XAWS :** The **cross-domain advanced workstation** is a general workstation that includes the general purpose advanced workstation (B-AWS) and the advanced workstation features of all domains. Life safety is excluded because this profile does not include life safety operator interface functionality.

- **B-AWS:** The **advanced workstation** covers view and modification of all standard properties in most of the general purpose objects, of the HVAC centric objects, and also lighting related objects.

- **B-OWS:** The **operator workstation** covers view and modification of standard properties of most of the objects, except domain specific objects beyond lighting.

- **B-OD:** The **operator display** covers view and modification of standard properties that are relevant for daily operation.

Operator Interface Device Profiles

BACnet International

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Operator Interface Device Profiles

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- General Purpose
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Access Control Operator Interface Profiles cover operator interfaces for physical access control applications.

- **B-XAWS:** This family includes the **cross-domain advanced workstation**, and the advanced workstation features of all domains. Thus, no other access control operator interface can be claimed next to the B-XAWS. Life safety is excluded because this profile does not include life safety operator interface functionality.

- **B-AACWS:** The **advanced access control workstation** is intended for operation and full configuration of access control and provides full view and modification of general purpose objects and all access control related objects, properties and services, including full view and modification of event logs.

- **B-ACWS:** The **access control workstation** is intended for regular security operations, and provides limited view and modification of properties of general purpose and access control specific objects. It includes limited view of event logs.

- **B-ACSD:** The **access control security display** is intended as a security staff display and provides very limited view and modification of selected general purpose and access control object properties, including limited view of event logs.

Operator Interface Device Profiles

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Lighting Operator Interface Profiles cover operator interfaces for lighting applications.

- **B-XAWS:** This family includes the **cross-domain advanced workstation**, and the advanced workstation features of all domains. Thus, no other lighting operator interface can be claimed next to the B-XAWS. Life safety is excluded because this profile does not include life safety operator interface functionality.

- **B-ALWS:** The **advanced lighting workstation** is intended for full operation and configuration of lighting functionality, and provides full view and modification of general purpose objects, and all lighting related objects and services.

- **B-LOD:** The **lighting operator display** is intended for daily operation lighting user displays and provides limited view and modification of properties of general purpose and lighting specific objects.
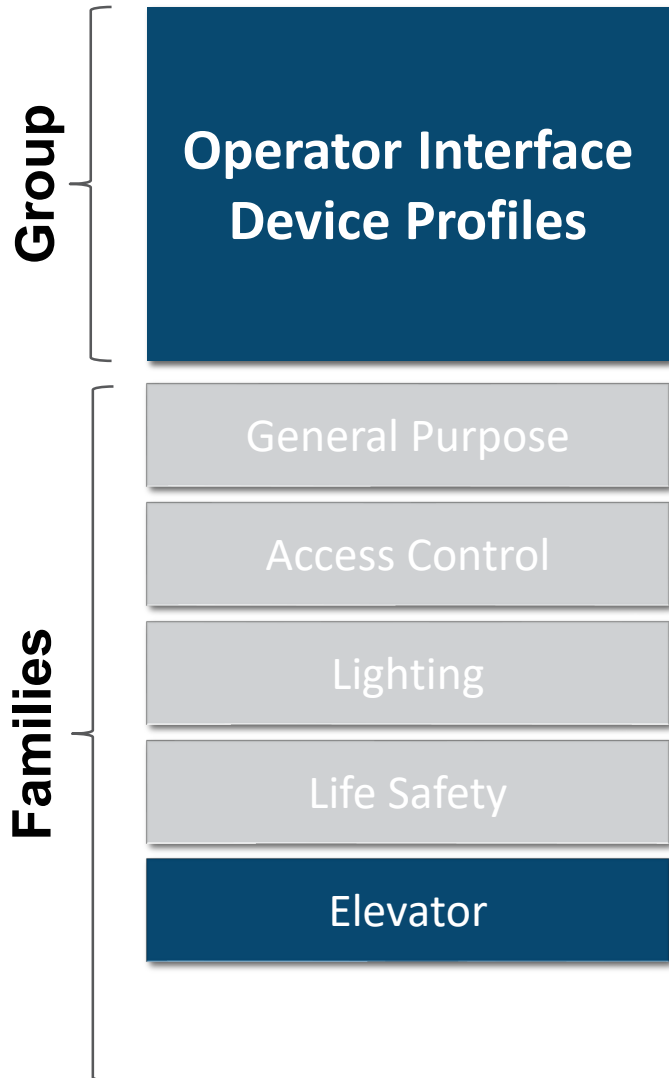
Note: *Lighting operator interface profiles were introduced with BACnet addendum 135-2016be, protocol revision 20.*

Operator Interface Device Profiles

BACnet International
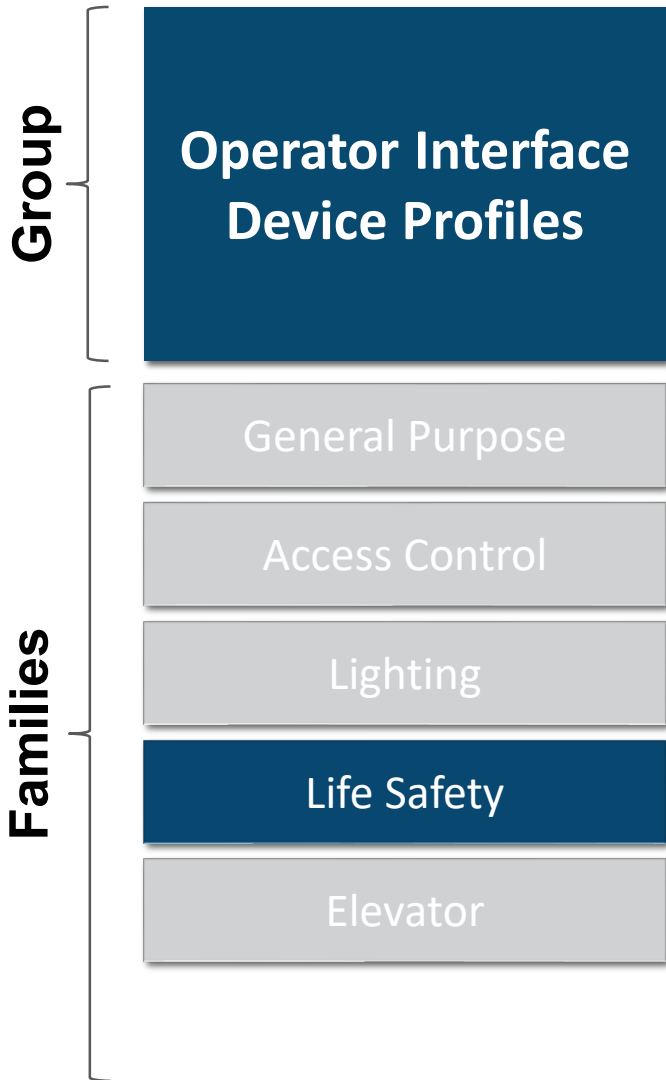
Life Safety Operator Interface Profiles cover operator interfaces for life safety applications.

- **B-ALSWS:** The **advanced life safety workstation** provides full view and modification of general purpose objects, and supports all life safety related objects, properties and services, including full view and modification of event logs.

- **B-LSWS** : The **life safety workstation** provides limited view and modification of properties of general purpose and life safety specific objects. It supports all life safety related objects, properties and services for normal operation.

- **B-LSAP:** The **life safety annunciator panel** provides limited view of selected general purpose and life safety object properties, including view of event logs. It allows for acknowledging of life safety events and resetting of life safety objects.

*Note: The **cross-domain advanced workstation** is in every operatory interface family except this one since the B-XAWS does not include life safety operator interface functionality.*

Operator Interface Device Profiles

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Operator Interface Device Profiles
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Elevator Operator Interface Profiles cover operator interfaces for elevator applications.

- **B-XAWS:** This family includes the **cross-domain advanced workstation**, and the advanced workstation features of all domains. Thus, no other lighting operator interface can be claimed next to the B-XAWS. Life safety is excluded because this profile does not include life safety operator interface functionality.

- **B-AEWS:** The **advanced elevator workstation** is intended for full operation and configuration of elevator functionality, and provides full view and modification of general purpose objects, and all elevator related objects and services.

- **B-EWS:** The **elevator workstation** is intended for regular elevator operation, and provides limited view and modification of properties of general purpose and elevator specific objects.

- **B-ED:** The **elevator display** is intended for status indication displays and provides limited view and modification of properties of general purpose and elevator specific objects.
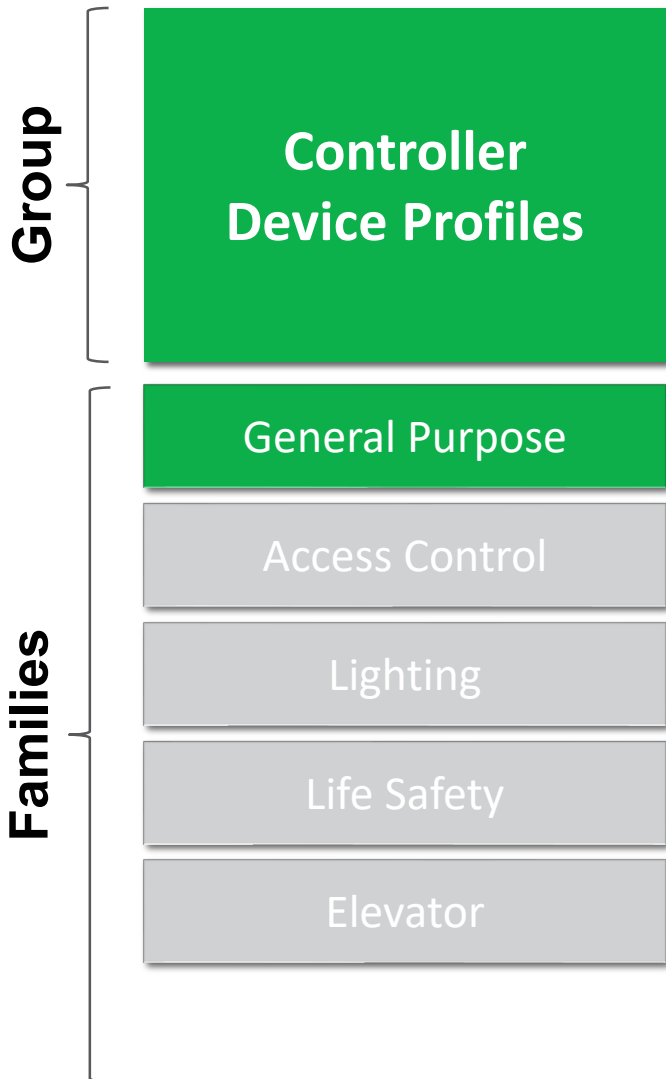
Note: Elevator operator interface profiles were introduced with addendum 135-2016bs, protocol revision 21.
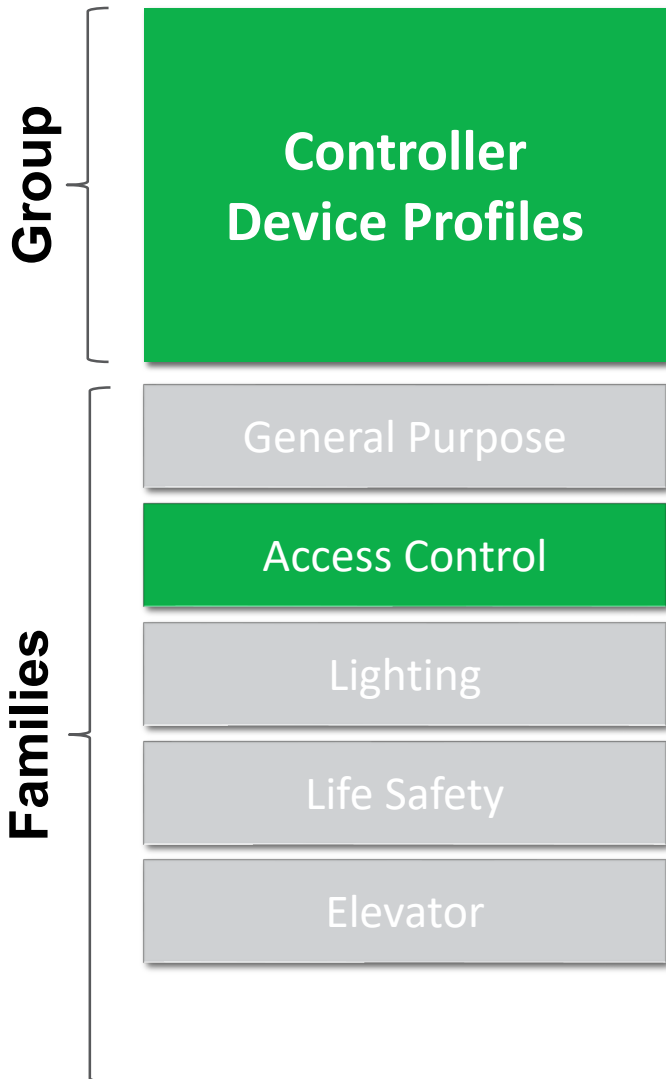
Controller Device Profiles
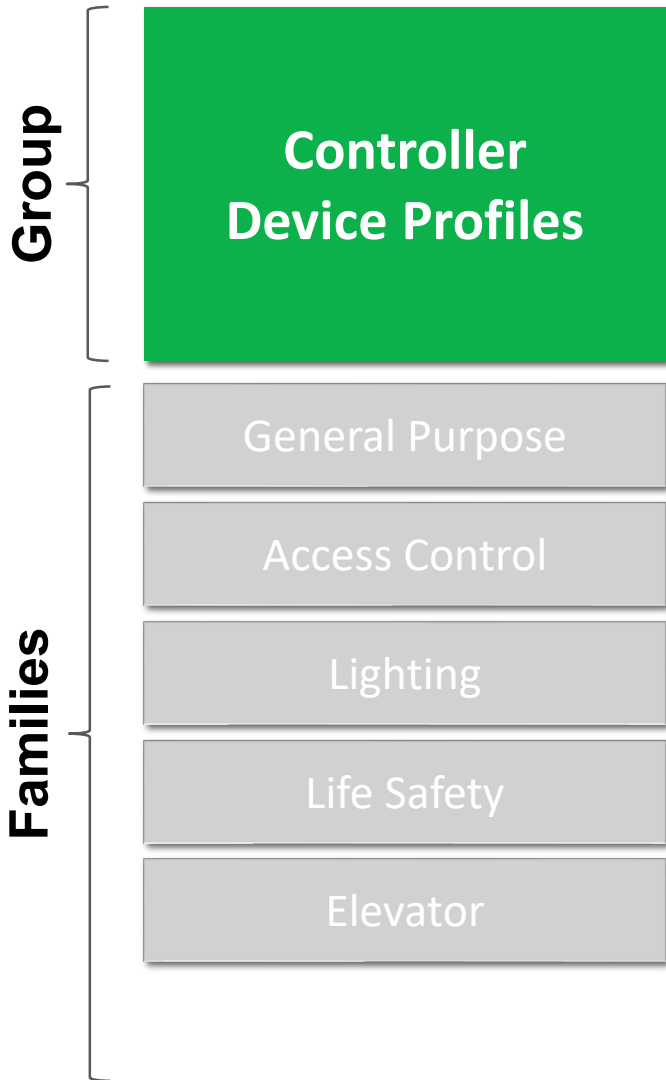
Controller Device Profiles define anything from programmable building controllers to smart sensors and actuators, and domain specific controllers.

- Considered **server** devices – mainly support B-side functionality.

- Advanced controllers are supervisory controllers and typically also include **client** functionality.

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Controller
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Controller Device Profiles

BACnet International

General Purpose Controller Profiles support general purpose controllers, typically HVAC and lighting functionality.

- **B-BC:** The **building controller** is intended for field programmable and configurable supervisory controllers in HVAC and general purpose applications.

- **B-AAC:** The **advanced application controller** is intended for controllers that run advanced HVAC or general purpose control applications. It does not require being configurable through BACnet.

- **B-ASC:** The **application specific controller** is intended for controllers that run specific HVAC or general purpose control applications. It does not require being configurable through BACnet.

- **B-SA:** The **smart actuator** is intended for small actuator devices that allow being commanded.

- **B-SS:** The **smart sensor** is intended for small sensor devices that provide sensor values to other devices.

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Controller Device Profiles

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Controller Device Profiles

Access Control Controller Profiles define access control controllers such as an access control panel. Support of access control functionality, objects and events as well as general purpose objects and services.
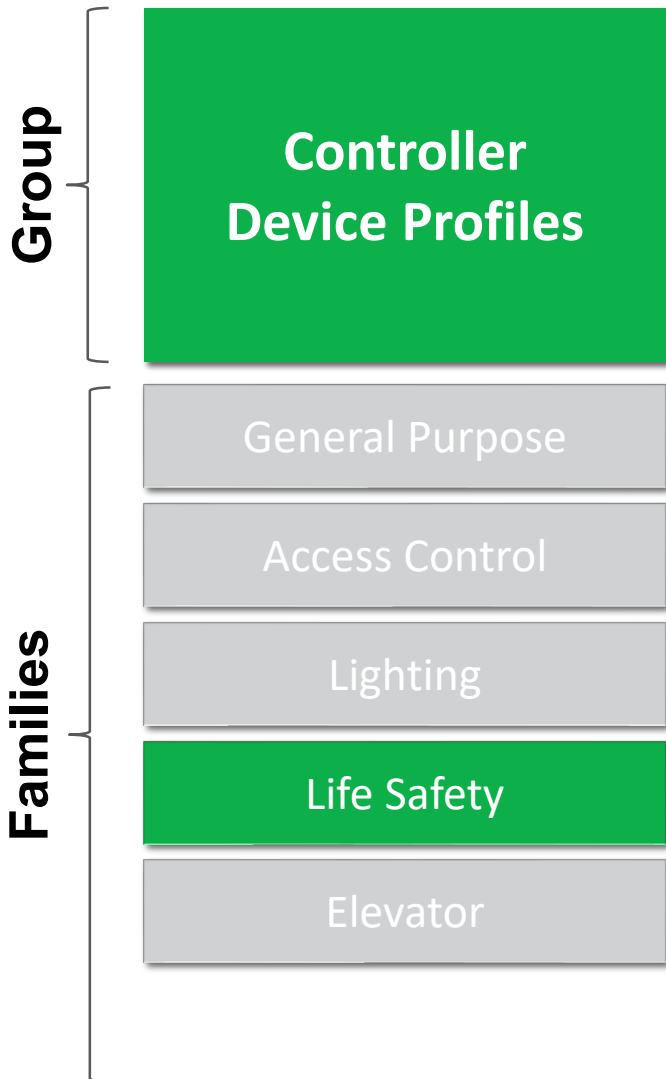
- **B-AACC:** The **advanced access control controller** is intended for field programmable and configurable controllers in access control applications. Supports full configuration of its access control objects and includes support for logging of internally generated access events.

- **B-ACC:** The **access control controller** is intended for controllers in access control applications. Supports access control objects and can generate access event notifications.

Controller Device Profiles
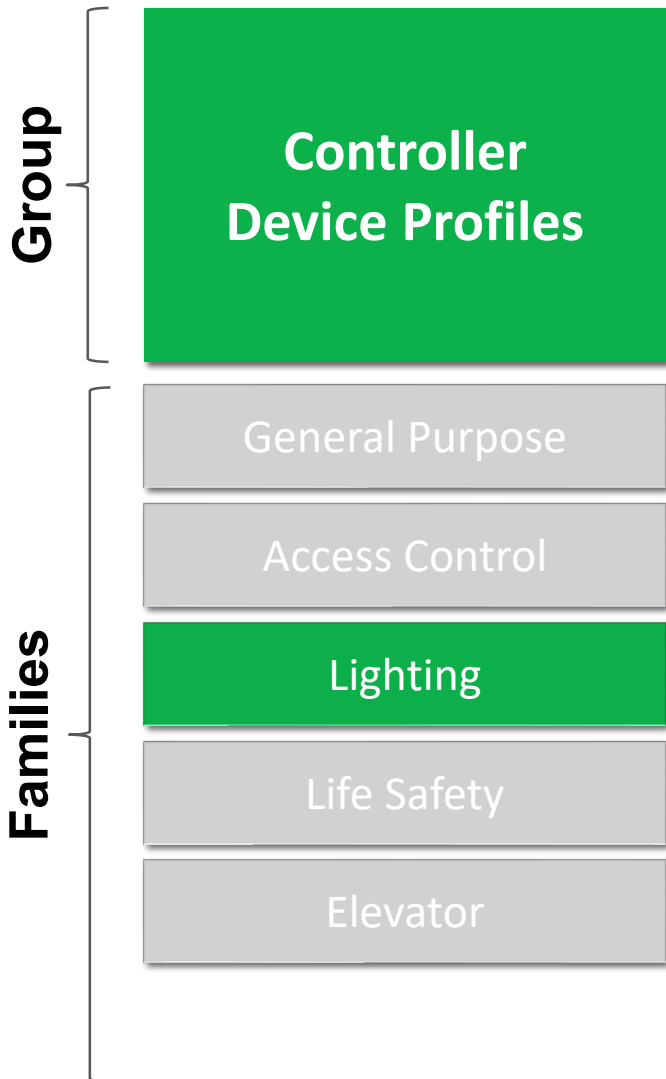
Lighting Controller Profiles define lighting controllers such as a supervisory lighting controller. Support of lighting functionality, objects, and execution of lighting commands as well as support for general purpose objects and services.
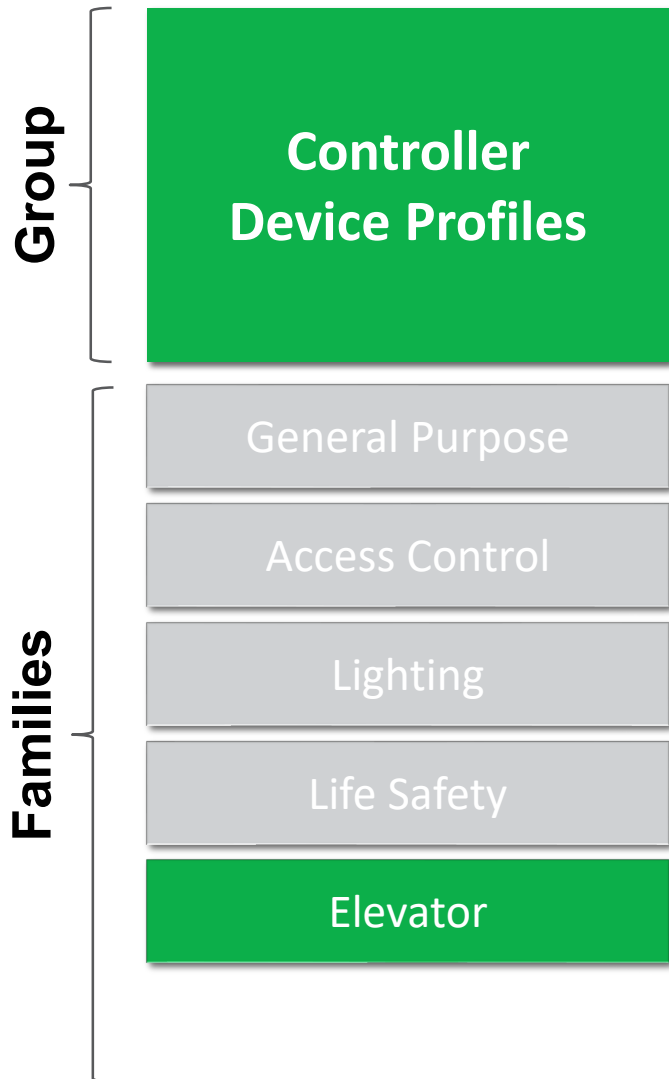
- **B-LS:** The **lighting supervisory controller** is intended for controllers in lighting applications that can command and operate subordinate lighting controllers, in particular through group write commanding.

- **B-LD:** The **lighting device** is intended for lighting controllers that control individual lights or groups of lights. Normally used as leaf nodes in lighting group setups.

Note: Lighting controller device profiles were introduced with addendum 135-2016be, protocol revision 20.

Controller Device Profiles

Life Safety Controller Profiles define life safety controllers such as a fire detection panel. Support of life safety functionality, objects and events, and normally support general purpose objects and services.
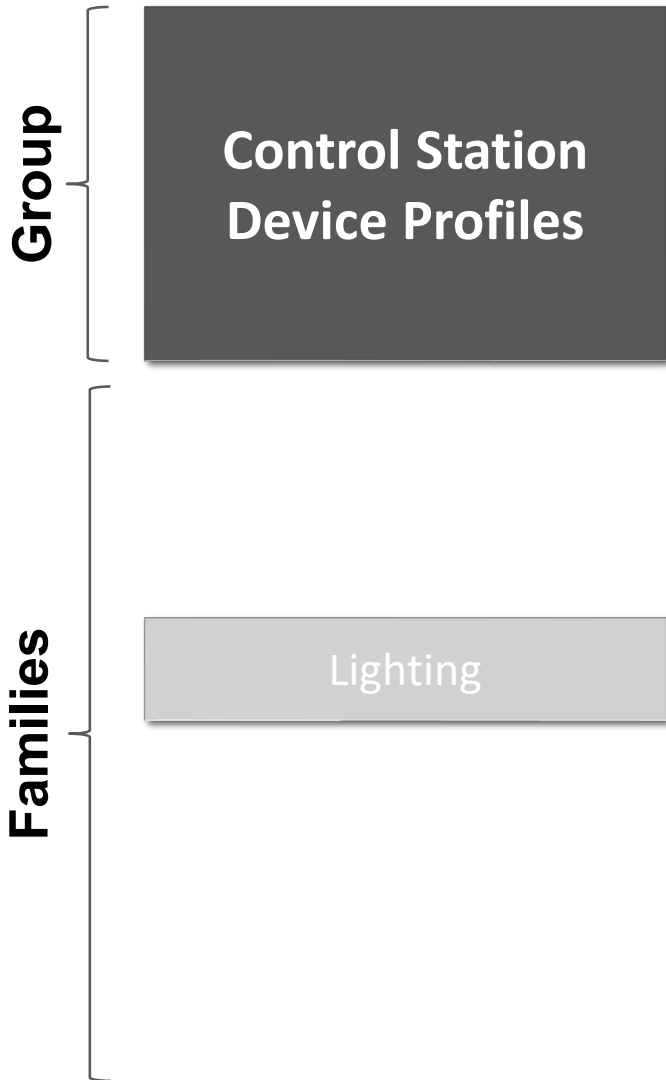
- **B-ALSC:** The **advanced life safety controller** is intended for field programmable and configurable controllers in life safety applications. Supports full configuration of life safety and includes support for logging of internally generated events.

- **B-LSC:** The **life safety controller** is intended for controllers in life safety applications. Supports life safety objects and life safety event notification and acknowledgement as well as resetting of its life safety objects.

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Controller Device Profiles

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Elevator Controller Profiles define elevator controllers such as elevator controllers supporting configuration of the elevators being controlled.

- **B-AEC:** The **advanced elevator controller** is intended for controllers in elevator applications that support modification and commanding of all properties of its elevator objects.

- **B-EC:** The **elevator controller** is intended for controllers in elevator applications that expose the state of the elevator system it controls through elevator objects, and supports limited modification of these objects for daily operation.

- **B-EM:** The **elevator monitor controller** is intended for controllers in elevator applications that expose the state of the elevator system it controls through elevator objects, but are not required to support any modification of them.

Note: *Elevator controller profiles were introduced with addendum 135-2016bs, protocol revision 21.*

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Control Station Device Profiles

Control Station Device Profiles are minimal user interfaces but contain client functionality. They are mainly defined for the lighting domain. These profiles are introduced for switches and small lighting control panels in the lighting domain.

- Minimal set of client side BIBBs supported, mainly for writing properties in lighting related objects.

- Lighting Output object view and modification and Lighting command support.

- Advanced lighting control stations include support of scheduling functions.

Note: *Control station device profiles were introduced for lighting with addendum 135-2016be, protocol revision 20.*

Control Station Device Profiles
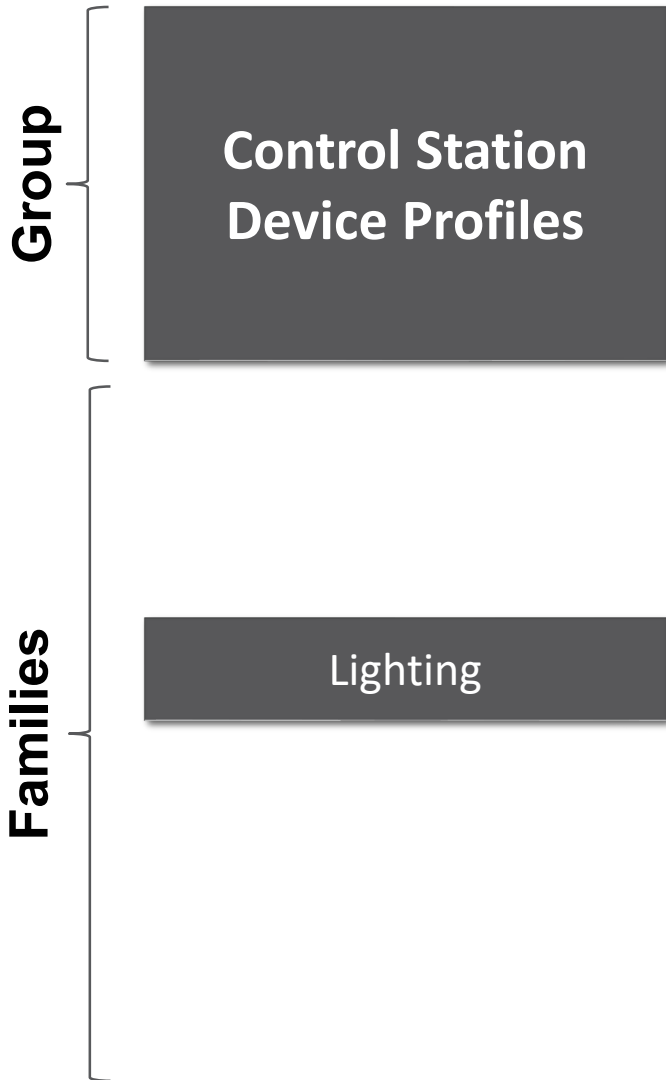
Lighting Control Station Device Profiles define control stations typically found in lighting applications. Although they are a user interface, they are very limited in support of presentation of data, and are mainly intended to initiate commands on manual operation or by schedule.

- **B-ALCS:** The **advanced lighting control station** is intended for sophisticated control stations that support user view, control and limited configuration of lighting functionality. Provides full commanding support of lighting objects and group operations for them.

- **B-LCS:** The **lighting control station** is intended for control stations that support simple control of lighting functionality and limited status indication. Provides limited support of commanding lighting objects.

Note: Lighting control station device profiles were introduced with addendum 135-2016be, protocol revision 20.

Basic Device Profiles

BACnet International (logo)

Basic Device Profiles

(left side labels)
Group

Families
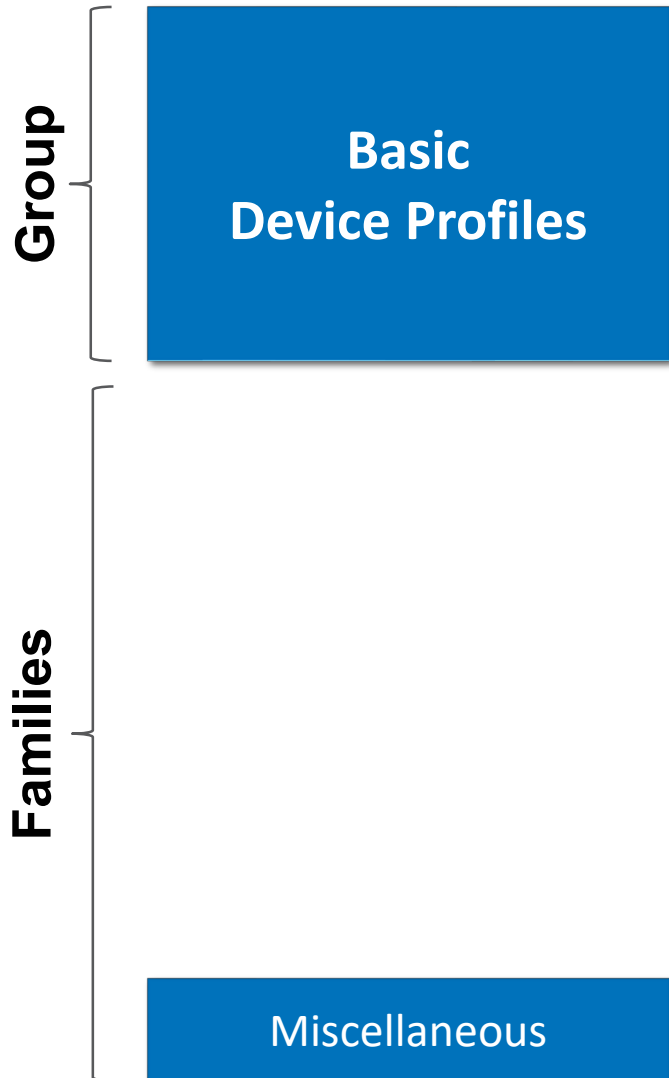
Miscellaneous

Basic Device Profiles are grouped into a single miscellaneous family. The profiles in this family include functionality that usually is expected to appear aside some other Device Profile's functionality.

Miscellaneous Device Profiles family collects functionality that may also be added in any combination to some product, next to profiles of other families. Each of these device profiles includes all the requirements for being a BACnet device, so each device profile could also be claimed alone.

- **B-RTR:** The **BACnet router** is a BACnet router that can be configured through the network. It routes BACnet messages between at least two network ports.

- **B-GW:** The **BACnet gateway** is a gateway from some system to BACnet. The expected BACnet functionality exposed on the BACnet side is the subject of this profile.

- **B-BBMD:** The **BACnet/IP broadcast management device** is a device that can perform broadcast management functionality for BACnet/IP or BACnet/IPv6.

- **B-ACDC:** The **access control door controller** is a device that is able to control a door as the Access Door objects are exposed.

- **B-ACCR:** The **access control credential reader** is a device that is able to read credentials and expose and notify readings through Credential Data Input objects.