Johnson Controls

Object Library

General Object Information

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GENERAL OBJECT INFORMATION

INTRODUCTION

This document provides you with general information about objects, the attributes of the objects, and the characteristics and functions of the attributes. Is also includes glossary of terms used throughout object documentation.

For a quick reference list of all objects, go to "Object List" on page 5.

Objects

Objects are self-contained functional items in the P2000 system that include processes to manage security system components. Objects appear as items in the Navigation Tree that shows the hierarchical physical or logical relationship between the objects as the user created them.

Each object that exists in a system is based on a specific object type. There is an object type to manage the functions of the site, object type to manage the operation of devices installed on the site, object types to manage the physical input and output points of each field device, and others.

Objects communicate with the rest of the system and with the user through their *attributes*. The object type defines the basic function of the object, but the actual behavior of each object also depends on the values assigned to its configuration attributes and received by its input attributes from other objects. The object writes its status conditions and the results of internal processes to its output attributes.

When an object type has an equivalent BACnet Object Type, the attribute list includes the BACnet Properties required by the BACnet protocol specification and some of the optional properties. These objects may be accessed from a BACnet network.

Attributes

Attributes contain data that an object exposes to the system. The data in some attributes is set by the user or by other objects and features in the system and is used by the object to perform its function. Other attributes contain data produced by the object itself. The table of attributes for each object lists the characteristics of each attribute to help you configure the object.

You will find the following headings in each attribute table:

- Attribute Name
- Attribute Number
- Data Type
- Notes
- Initial Value
- Values/Options/Range

Attribute Name

The “Attribute Name” column gives the name of the attribute as it appears on the user interface, for example in the System Configuration Tool (SCT).

Attribute Number

The “Attribute Number” column specifies the number to be used for this attribute in the P2000 user interface.

Data Type

The “Data Type” column lists the data type of the attribute value. See Table 1 for a description of various data types used.

Table 1: Data Types

Data Type	Formal Name	Definition
Attribute Reference	Attribute Reference	Reference of an attribute from which data will be read or to which data will be sent. The format is <Object Reference.Attribute Name>
Date	Date	Day of week, day, month, year. Example: Wednesday, February 19, 2003.
List	List	List of attributes or properties of other objects that will be created or used by a particular function of this object.
Number	Byte or Unsigned8	Number from 0-255 with no decimal point. Allowed range appears in column headed Values/Options/Range.
Number	Signed Integer Short	Number from -32,768 to 32,767 with no decimal point. Allowable range appear in column headed Values/Options/Range.

Table 1: Data Types

Data Type	Formal Name	Definition
Number	Signed Integer Long	Number from -2,147,483,648 to 2,147,483,647 with no decimal point. Allowable range appear in column headed Values/Options/Range.
Number	Unsigned Integer Short or Unsigned16	Number from 0 to 65,535 with no decimal point. Allowed range appears in column headed Values/ Options/Range.
Number	Unsigned Long or Unsigned32	Number from 0 to 4,294,967,295 with no decimal point. Allowed range appears in column headed Values/Options/Range.
Object Reference	Object Reference	Item Reference of an object to which a command will be sent.
One state/type/mode from a set	Enumeration	Discrete state/type/mode taken from a set of numbered possible values and normally represented on the user interface by text.
Real value	Float	Number with a decimal point to show required precision. Example: 24.5
Set of related values	Structure	A set of values of mixed data types representing one physical entity.
Series of True or False states	Bit String	Series of true/false states that each have an independent meaning but together define the overall state of an attribute or object.
Set of values	Array	A set of a specified number of values of the same data type.
Text	String	A line of characters (letters and numbers)
Time	Time	Hours, minutes, seconds Example: 12:30:56 AM
True or False	Boolean	Data that can only be true or false

Notes

The “Notes” column lists specific characteristics of the attribute and its value. The characteristics (or flags) in this column specify how the attribute is used in the object and how it can be set.

Table 2: Notes

Attribute (Boolean)	Definition
A - Archive	Internal use only.
B - Database use only	Internal use only.
C - Configurable	Indicates if the value of the attribute is defined by the user when first creating the object and cannot be changed by the object itself. Configurable (C) attributes that are writable (W) can be changed by the user online or by a process or feature in the running system after the object has been created.
D - Default attribute	Internal use only.
E - Trigger on write	Internal use only.
F - PMI refreshing	Internal use only.
K - Key attribute	Internal use only.
N - Value not required	Indicates that this configurable attribute may contain a blank value. (Other configurable [C] attributes without N must contain a valid value for the object to function.) For example, a value for a high or low limit attribute is not required and a blank value indicates that the alarm processing is not required.
O - BACnet optional attribute	Internal use only.
P - Input	Internal use only.
Q - BACnet required attribute	Internal use only.
R - Assoc to reliability	Internal use only.
W - Writable	Indicates that the value of the attribute can be modified by the user online or by a process or feature in the running system or network. A write to a configurable (C) attribute replaces the existing value. A write to other attributes is handled as an override to the value calculated by the object or as a command for some action by the object.
Z - Priority allowed on write	Indicates that the attribute may be written at 16 different priorities. Prioritization allows multiple features to control a single attribute while avoiding conflicts. The highest priority feature controls the attribute until it decides to release the attribute and hand over control to the next highest prioritized feature. For more information, see “Prioritized Attributes” on page 12.

Initial Value

This column specifies the value taken by a configurable attribute when the object is being created and the user does not enter another value. Other attributes take the initial value on start-up and until the object calculates a new value.

Values/Options/Range

Based on the attribute's data type, this column may show the range of valid values or a reference to the set of possible values for this attribute. If the complete set of values for the attribute is small, all possible values are shown in this column.

Object Naming Attributes

Every object can be identified by one of three naming attributes.

- Name - A freely definable user name for the object.
- Item reference - A fixed name used internally by the system.
- BACnet object name - The name exposed to a BACnet network based on the Item Reference.

See “Attributes Common to All Objects” on page 10 for more information on these attributes.

Commands

For commands used by the objects refer to the corresponding object manuals.

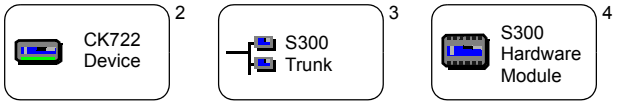
Common Object Attributes

Some object attributes are used by all of the object types. Each particular object in the object list contains a reference to the use of common object attributes. See “Attributes Common to All Objects” on page 10 for details.

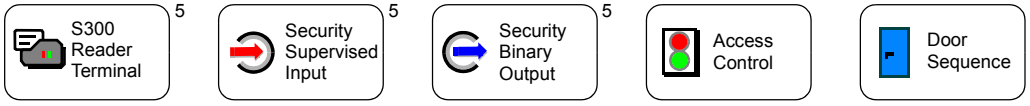
OBJECT LIST

If you are viewing a PDF file, you can click on any of the object icons on this page (except for the **Site** and **Folder** icons) to open a document describing this object.

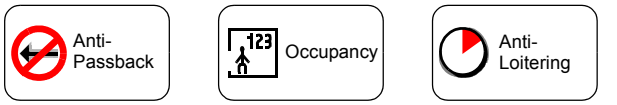
Hardware-related objects:



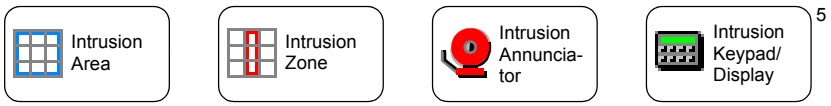
Basic application objects:



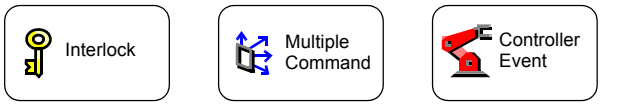
Advanced application objects:



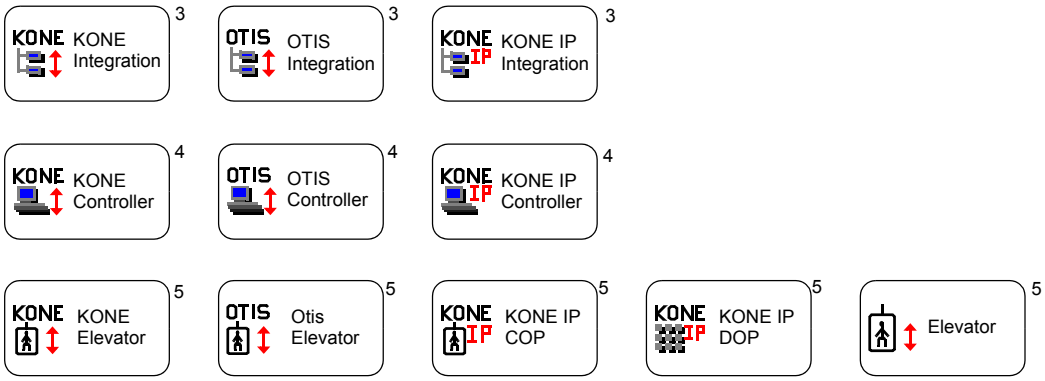
Intrusion detection objects:



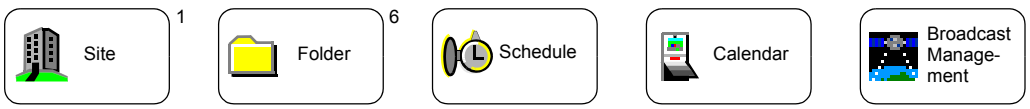
Custom logic objects:



Elevator-related objects:



Miscellaneous objects:



Internal and diagnostic object:

Notes: [1] Site, [2] Supervisory Device, [3] Integration, [4] Field Device, [5] Field Point, [6] Folder

OBJECT OVERVIEW

The following section provides a brief description of the objects' responsibilities in the CK722. The given examples are *not* a comprehensive list of all of the objects responsibilities. For a more detailed description, refer to each object's individual manual.

If you are viewing a PDF file, you can click on any of the object icons in Table 3 (except for the **Site** and **Folder** icons) to open a document describing this object.

Table 3: Object Overview

Object	Description
Hardware Related Objects	
CK722 Device	Allows configuring CK722 wide parameters, such as IP settings and encryption.
S300 Trunk	Allows configuring S300 bus communication parameters, such as baud rate.
S300 Hardware Module	Represents a field device on the S300 bus, such as RDR2S, KDM, IO8, SIO8. Monitors and reports the field device's status, such as online/offline.
Basic Application Objects	
S300 Reader Terminal	Allows configuring RDR2S's and RDR2's online and offline behavior.
Security Supervised Input	Represents and monitors a supervised electrical input. Allows configuring input parameters, such as debounce time and polarity.
Security Binary Output	Represents an electrical output, such as a relay or dry contact. Allows configuring output parameters, such as duration and polarity.
Access Control	Interprets badges and keypad entries. Makes access decisions.
Door Sequence	Carries out access decisions. Operates the door strike, red and green lights. Monitors and reports door status, such as open/closed, locked/unlocked.

Table 3: Object Overview

Object	Description
Advanced Application Objects	
 Anti-Passback	Monitors and reports the anti-passback status of entities in an anti-passback area.
 Occupancy	Monitors and reports the number of entities in an occupancy space.
 Anti-Loitering	Monitors and reports the time entities spend in an anti-loitering area.
Intrusion Detection Objects	
 Intrusion Area	Represents a physical area that is monitored by the intrusion detection feature. Monitors the state of its intrusion zones and other nested intrusion areas.
 Intrusion Zone	Represents a group of intrusion detection inputs. Determines whether an intrusion alarm needs to be reported.
 Intrusion Annunciator	Allows the user to monitor or silence an alarm annunciator.
 Intrusion Keypad/Display	Handles the user sessions at the Keypad Display Module.
Custom Logic Objects	
 Interlock	Monitors attribute values and runs them through a logical equation producing a True/False result. Based on the result, other attributes can be changed.
 Multiple Command	Multiplexes a single attribute change into a list of attribute changes. Allows the configuration of groups and timed sequences.
 Controller Event	Invokes actions based on badge swipes or keypad entries.
Elevator Related Objects	
 Elevator	Represents an elevator cab. Allows configuration of the floors that this elevator cab may serve.
 KONE Elevator	Represents the KONE elevator in a KONE high level elevator integration.
 Otis Elevator	Represents the Otis elevator in an Otis high level elevator integration.

Table 3: Object Overview

Object	Description
 KONE IP COP	Represents KONE IP COP (Car Operation Panel) elevator in a KONE IP high level elevator integration.
 KONE IP DOP	Represents KONE IP DOP (Destination Operation Panel) elevator in a KONE IP high level elevator integration.
 KONE IP Integration	Allows configuring KONE IP integration-wide settings and provides KONE IP integration-wide communication statistics.
 KONE IP Controller	Represents a single controller (a KONE PC group controller or a KONE KIC Box).
 KONE Integration	Allows configuring KONE- integration-wide settings and provides KONE integration-wide communication statistics.
 KONE Controller	Allows configuring KONE elevator controller parameters, such as the KONE elevator controller address.
 Otis Integration	Gathers statistics about the communication to the Otis elevator controller(s).
 Otis Controller	Allows configuring Otis elevator controller parameters, such as the Otis elevator controller address.
Miscellaneous Objects	
 Site	Allows configuring the site's time zone, such as Pacific Time (GMT - 8:00)
 Folder	Allows other objects to be organized in the SCT's configuration tree.
 Schedule	Modifies attributes based on time of day, such as whether a PIN is required or whether a door is in override mode. Also determines whether entities have access based on time of day.
 Calendar	Determines whether a day is considered a regular day or a holiday.
 Broadcast Management	Allows Ethernet broadcasts to travel across Ethernet subnets. Only needed for peer-to-peer applications across Ethernet subnets.
Internal and Diagnostic Objects	
 Security Notification Class	Routes notifications (reports) from the objects to the P2000. This object is automatically created, and does not need to be configured.

Object Creation and Deletion

Objects can be created offline in the system database on the System Configuration Tool (SCT) and later downloaded to the controller as part of the edited database. Creating an object involves placing it at the desired position in the Navigation Tree and defining all the attributes that are required for it to operate. The procedure begins with the Insert Menu, and a wizard guides you through all the necessary configuration steps.

Objects can be deleted offline in the system database on the SCT and later downloaded to the host device as part of the edited database. The user interface screens and procedures are similar in either case. Deleting an object involves selecting it in the Navigation Tree and using the Delete Items command.

See the *System Configuration Tool (SCT)* manual for details.

NOTE

Before deleting an object you should delete all references to the object within other objects and reconfigure any objects that are referenced in the object to be deleted. If the references are not modified or deleted the referenced objects may not operate correctly.

ATTRIBUTES COMMON TO ALL OBJECTS

This section describes attributes that apply to all objects.

NOTE

In addition to common object attributes, each object uses attributes specific to that particular object type. Some of them (internal attributes) are not visible in the user interface and cannot be modified directly.

Table 4: Common Object Attributes

Attribute Name	Attribute Number	Data Type	Notes	Initial Value	Values/Options/ Range
BACnet Object Name (also: *Object Name*)	77	Text	-	-	Item Reference less SiteID
Description	28	Text	WNCA	-	Maximum 40 characters.
Item Reference	32527	Text	C	-	All items navigation tree path to object. SiteID:DeviceID/x.y.z
Name (also: *User Name*)	2390	Text	CW	-	Maximum 400 characters. For objects that need to be known by P2000, the maximum number of characters is 32.
Object Category	908	One type from a set	CW	General	Internal use only
Object Type	79	One type from a set	-	>>>	Actual Object Type
Object Identifier	75	Number	C	-	Instance Number of object Type within the controller
Partition	2220	Ennumeration	CA	1	Select from any P2000 partition
Public	2221	Boolean	CA	-	-

A - Archive, C - Configurable, N - Value not required, W - Writable

BACnet Object Name (also: **Object Name**) **–** Indicates the Object Name as exposed to a BACnet network This attribute will be equivalent to the Item Reference without the site identifier.

Description – Contains a user defined description of the object.

Item Reference – Contains a unique reference name for the object that is the full “path” name of the object through the Navigation Tree - All Items tab using the object identifiers (IDs). The Item Reference begins with the Site and host Device identifiers, followed by the identifiers of the other host objects such as an integration object, field device, or any nested folders, and ends with the identifier of the object itself.

You define the identifier of each object as it is created and the system builds the Item Reference automatically. Once the object is defined, the Item Reference cannot be changed.

The following characters *are not* allowed in identifiers:

@ . , ? * # : ' “ ” \ / [ ] < > |

NOTE

Periods (.) are allowed in Domain Names.

Name (also: **User Name**)– Contains a freely definable user Name for the object that is independent of the Item Reference or the location of the object in the physical network. The Name is shown in alarm reports, the event and audit viewers, and in summaries and must be unique within the site.

The Name defaults to the object identifier during manual object creation and must be edited to make it unique within the site. For integrated BACnet objects, the name defaults to the BACnet Object Name in the remote BACnet device.

Object Category – Classifies the object by the category of system or equipment that it monitors to aid in the determination of user access privileges and alarm routing.

Object Identifier – Indicates the instance number of the Object Type used in the BACnet Object ID as exposed to a BACnet network. The object ID must be unique within the host device.

Object Type – Indicates the Object Type as displayed in the Metasys software and as exposed to a BACnet network.

Partition – Specifies the P2000 partition this object belongs to.

Public – Select this attribute if you wish this object to be visible from all P2000 partitions.

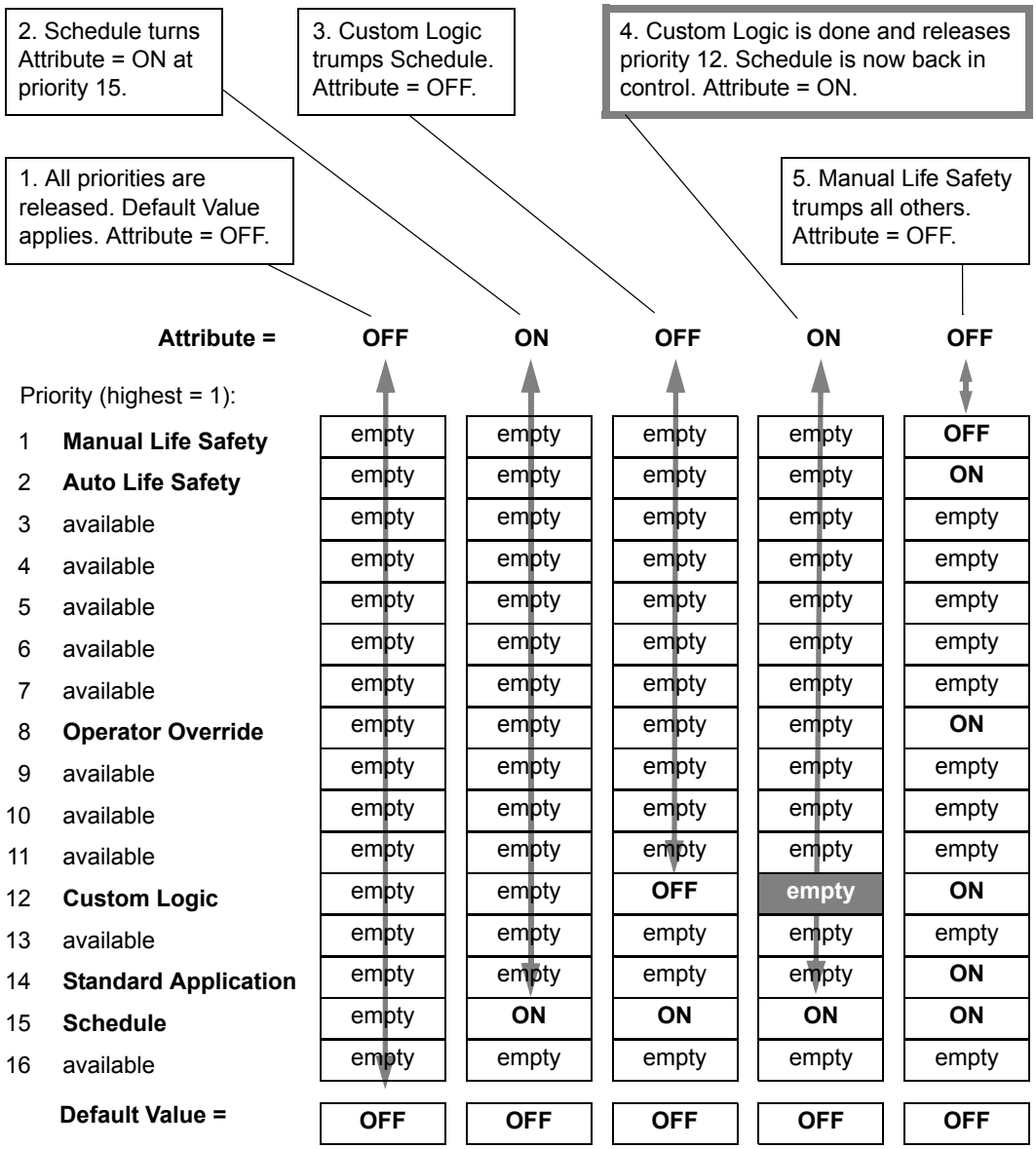
PRIORITIZED ATTRIBUTES

Some objects have prioritized attributes. Attribute prioritization allows several applications to control the attribute while resolving any conflicts in a predefined manner.

Each prioritized attribute has 16 independent priority slots, to which the attribute's allowed values can be written. A prioritized attribute always returns the value stored in the highest non-empty priority slot. If all 16 priority slots are empty, the attribute returns its default value, which may be stored in another attribute.

Entering a value into a priority slot of a prioritized attribute is referred to as “issuing a prioritized write.” Removing a value from a priority slot of a prioritized attribute is referred to as “releasing a priority.”

The following diagram shows an example of a prioritized attribute being controlled by several different applications. As each application uses a unique priority, all conflicts are settled.



Prioritized attributes are identified by the letter “Z” in the Notes column of the object's attribute table in the object manual. The “Initial Value” and, in some cases, the “Value/Options/Range” columns specify which attribute is used to store the default value.

Examples of Prioritized Attributes

The following table provides examples of prioritized attributes and the attributes that store the corresponding default values.

Object	Prioritized Attribute	Default Value Attribute	Allowed Values
Interlock	*Present Value*	N/A (interlock equation governs)	False, True
Multiple Command	*Present Value*	*Relinquish Default*	1 to 32
Intrusion Area	*Present Value*	*Relinquish Default**	Disarm, Arm
Security Binary Output	*Present Value*	*Default Value*	Active, Inactive, Unknown
Door Sequence	*Portal Mode*	*Portal Default*	Normal, Override, Lockdown
Door Sequence	*Suppress Forced Door*	*Suppress Forced Door Default*	False, True
Door Sequence	*Suppress Propped Door*	*Suppress Propped Door Default*	False, True
Security Supervised Input	*Suppress*	*Suppress Default*	False, True
Anti-Loitering	*Suppress*	N/A (always False)	False, True

* Cannot be configured using SCT.

Recommended Priorities

In order to ensure that different applications resolve conflicts in a consistent manner, it is recommended that certain features use the priorities defined in the table below. Based on the needs of a particular application, the priorities can be changed. As the priorities were initially named for applications for building automation, those names can also be sometimes found on the user interface.

Priority value	Priority name for building automation applications	Priority name for security applications	Objects typically issuing writes at the specified priority
1	Manual Life Safety	-	-
2	Auto Life Safety	-	-
3	Application	-	-
4	Application	-	-
5	Critical Equipment	-	-
6	Minimum On Off	-	-
7	Heavy Equipment Delay	-	-
8	Operator Override	Host Operator	-
9	Application	Door System Override	Door Sequence
10	Application	Door Security Mode	Door Sequence
11	Demand Limiting	Door Lockdown	Door Sequence
12	Application	General Custom Logic	Interlock, Multiple Command
13	Load Rolling	Door Override	Door Sequence
14	Application	Standard Applications	Elevator, Door Sequence
15	Scheduling	Scheduling	Schedule
16	Default	-	-

Writing and Releasing Prioritized Attributes

Many objects issue prioritized writes and release priorities when dealing with other objects. In some cases the priorities are configurable by the user, in other cases they are fixed by the implementation.

The following objects currently issue prioritized writes and releases:

Object	Prioritized attribute to write to	Priority	Default	Configurable through
Interlock	Any attribute in its Action Table	1 to 16	16	Action Table
Multiple Command	Any attribute in its Action Table	1 to 16	16	Action Table
Door Sequence	Its own *Portal Mode* for System Override	3 to 16	9	*System Override Priority**
Door Sequence	Its own *Portal Mode* for Security Mode	3 to 16	10	*Security Mode Priority**
Door Sequence	Its own *Portal Mode* for Lockdown	3 to 16	11	*Lockdown Priority**
Door Sequence	Its own *Portal Mode* for Override	3 to 16	13	*Override Priority**
Door Sequence	Any attribute referenced as output	14	14	N/A
Elevator	Any output type attribute in *Floor List*	14	14	N/A

*These attributes are configurable in the “Advanced” section of the object’s configuration view on the SCT.

The following object currently issues prioritized writes, but has no possibility of releasing a priority:

Object	Prioritized Attribute to write	Priority	Default	Configurable through
Schedule	Any attribute in its Scheduled Items	9 to 16	15	*Priority For Writing**

*This attribute is configurable in the “Advanced” section of the object’s configuration view on the SCT.

Since the Schedule Object is not able to release its priority, any prioritized writes at a lower priority become ineffective. It is therefore recommended that Scheduling always uses the lowest priority of any application.

The recommended priority for Interlock and Multiple Command objects’ Action Table is 12 (General Custom Logic), but the actually used priority depends on the requirement of the application.

Releasing Multiple Priorities

Some objects also provide boolean attributes that facilitate the releasing of certain priorities. See the following table for the list of these objects.

Here's an example how to read each row in the table:

"For the Binary Output object, writing the *Release Present Value* attribute to "True" releases priorities 3 to 16 of prioritized attribute *Present Value*."

For object...	writing this attribute to True...	releases priorities...	of prioritized attribute...
Binary Output	*Release Present Value*	3 to 16	*Present Value*
Door Sequence	*Release Portal Mode*	3 to 16	*Portal Mode*
Door Sequence	*Release Suppress Forced Door*	3 to 16	*Suppress Forced Door*
Door Sequence	*Release Suppress Propped Door*	3 to 16	*Suppress Propped Door*
Supervised Input	*Release Suppress*	3 to 16	*Suppress*
Anti Loitering	*Release Suppress*	3 to 16	*Suppress*

GLOSSARY

This section defines the meaning of terms and acronyms used throughout object documentation.

2-State Input – Input reporting 2 physical states of the supervised input point: Secure or Alarm.

4-State Input – Input reporting 4 physical states of the supervised input point: Secure, Alarm, Short or Open.

Access Model – A permanent model that determines who gets access in everyday operation.

Access Profile – Combines entity's identifiers and access rights. Access profiles reference entities.

Access Time – The time between the unlocking and the locking of the door strike.

Acknowledgement - Provides assurance that a notification has been acted upon by some other agent, rather than just received correctly by another device. In most cases, acknowledgements come from human operators. To-Offnormal, To-Fault, and To-Normal events may require or not require individual acknowledgement within a notification class.

Active – When referring to an input point, Alarm, Short or Open state.

Alarm – Condition that needs to be reported by notification, and to be latched until acknowledged.

Allowed Floor – Access to floor that is allowed based on either public access or elevator access.

Anti-Passback Status – Combination of an entity's entry-exit status, entry time, and exit time.

Application Protocol Data Unit (APDU) – A unit of data specified by a communications protocol which contains application data.

Area – In anti-passback or anti-loitering applications it is the physical area handled by an application. This area does not have to be contiguous, but may be a collection of separate rooms across the facility.

In intrusion applications an area consists of a group of zones that are logically combined to simplify the task of arming and disarming zones in a building. When an area is armed, all of the zones in that area are armed. When the area is disarmed, all of the zones in that area are disarmed.

Asset – Entity that is configured as an "asset," and therefore handled as an asset by the Access Control object.

Attributes – An attribute is a specific element of data which is contained by each instance of an object type. A property of an attribute (or a command) is a piece of data used to describe how an attribute is defined, that is, it describes a characteristic of an attribute (or command). See also: "Properties."

Auxiliary Access – Access action triggered by the auxiliary input changing into a certain state.

BBMD – BACnet Broadcast Management Device. A BBMD is the mechanism defined by BACnet to transmit broadcast messages from one IP subnet to another IP subnet.

Central Anti-Passback Mode – Distributed anti-passback application with single central anti-passback status database. See also "Shared Anti-Passback Mode" and "Local Anti-Passback Mode."

Child – See: "Parent-child relation."

Commands – Requests sent to the object to perform an algorithm. The object must define a method to execute each of the command requests an object supports. See also: "Methods (Functions)."

Configured Broadcast Management Object – A Broadcast Management object in which either or both of the "BM Address List" and "BM Host Name List" attributes contain one or more list elements, excluding list elements containing an IP address of 0.0.0.0. A configured Broadcast Management object will perform the role of a BBMD. Some Noah devices are manufactured with an "unconfigured" Broadcast Management object. These devices will not resume the role of a BBMD until the Broadcast Management object has been configured.

Controller Event – User-definable sequence of actions triggered by an access decision.

COV – Change Of Value.

Data Record – Data not stored as an MCE object instance, but as a structure in the controller's static memory.

Debounce – The time, expressed in seconds that an input must remain at a specified state to detect COV.

Delayed State – Interim state (inactive/active) of the output after delay but before flash and polarity handling.

Destinations – You can send event notifications to multiple destinations or to different destinations based on the time of day or day of week. Notification Classes specify a list of destinations, each of which is qualified by time, day of week, and type of handling. The Recipient List attribute describes how the destination parameters relate to the Security Notification Class object. If an event that uses a Security Notification Class object occurs and the day is one of the days of the week that is valid for a given destination and the time is within the window specified in the destination, then a notification is sent to the destination. You can qualify destinations by any combination of the three event transitions To-Offnormal, To-Fault, and To-Normal.

Elevator Access – Access to floor that is allowed based on an entity's elevator access rights.

Elevator Controller – Third-party controller interfacing elevators to the access control system.

Emergency – The Access Control object is operating in the emergency mode when its *Security Level* attribute matches or exceeds the value of the *Security Mode Active Level* attribute.

Entity – A regular or temporary employee, a visitor, or an asset.

Entity Group – A list of entities.

Entry Time – Describes the date and time of an entity's last transition into the area.

Entry-Exit Status – Describes whether an entity is currently In or Out of the area, or whether its status is Undefined, which serves a wild card for either the In or the Out status.

Escort – Entity referenced by a non-asset entity's configuration, enabling it to accompany the entity through portals that perform entity processing. This reference can either be direct or indirect through an entity group.

Event – Condition that needs to be reported by notification, but not be latched.

Exit Time – Describes the date and time of an entity's last transition out of the area.

Fault Open – Input state indicating the supervised input is in a Fault state caused by a detected fault of open circuit. This reporting state applies to 4-state input points.

Fault Short – Input state indicating the supervised input is in a Fault state caused by a detected fault of short circuit. This reporting state applies to 4-state input points.

Field Controller – See “Hardware Module.”

Field Device – A device that links the electrical field hardware to the supervisory controller.

Field Device Object – An MCE object representing a field device.

Field Point Object – An MCE object representing an application on the field device.

Field Terminal – See “Hardware Module.”

FIFO – First-In-First-Out.

Flash State – Interim state (high/low) of the output after delay and flash but before polarity handling.

Floor – Each door opening of the elevator shaft is considered to be a floor.

Floor Button – Button inside the elevator cab used for requesting the elevator to travel to that floor.

Hardware Module – A controller acting as an S300 field bus slave (see “I/O Module”), or the S300-KDM.

Host – Johnson Controls P2000 server.

I/O Module – One of the following RS485 interface modules: S300-DIN-RDR2S, S300-DIN-RDR2SA, S300-DIN-RDR8S, S300-RDR2, S300-IO8, S300-SIO8, or S300-I16.

I16 – Johnson Controls S300-I16 hardware module.

Identification – The process of determining an entity's identity.

Identified – The point in the access decision that must be reached for an entity to be able to accompany assets, accompany entities or complete groups.

Identifier – A single set of data provided by a reader, such as a bit stream read of a badge, a character sequence entered at a keypad, or bit stream read from a biometric device. Identifiers can also be used as verifiers only, when the identifier format is not capable of identifying an entity based on the received data.

IDS – The CK722 Intrusion Detection System.

Inactive State – When referring to an input point, Secure, Unknown, or Initialized state.

Indicating – When referring to an attribute, indicating any data means conveying information from within the object to the outside world.

Inheritance – Is a relationship between Object Types where one Object Type is the parent (superclass) of another (subclass). It provides a way to program by extension where a new type of object can be created that can inherit attributes and methods from its parent and only extend the class by adding new attributes and methods or overriding existing methods and behavior. Much of the functionality of the architecture will be provided by an Object Type called STD_CLASS.

Integration object – An MCE object representing a supervisory controller's field communication subsystem.

Internal Messages – Internal Messages are used when two objects need to communicate with each other, and both objects are managed by the same "task." Internal Messages equate to a series of direct function calls by which one object interfaces to another. For example, if Application A needs a value from Application B, and they are both "on box;" a Read Attribute request by Application A will result in a direct function call to the read attribute method of Application B to obtain the value. This is a much faster and direct method of obtaining the value from Application B than the External Message mechanism described next. All Messages are handled in order of the execution priority of the requesting object.

IO8 – Johnson Controls S300-IO8 hardware module

IP Broadcast Mask – The Broadcast Management object and this specification use this term for the "Broadcast Distribution Mask" defined in *BACnet Annex J, section J.4.3.2*.

IP Subnet – A segment of a network that is identified by a unique network address. An IP address consists of a network address and device address. The IP mask determines which bits of the IP address is part of the network address. The remaining bits define the device address. Two devices (A and B) are on the same IP subnet if:

1. The IP mask of device A and B are the same.

2. The IP mask logically ANDed with the IP address of device A is equal to the IP mask logically ANDed with the IP address of device B.

If these conditions are not met, device A and B are on different subnets.

Subnets are connected by routers that are usually configured to not allow broadcasts from one subnet to another subnet.

KDM - Johnson Controls S300-KDM hardware module (Keypad/Display Module).

KONE – Elevator manufacturer.

Legacy – S300 firmware versions PS-201E and lower, PS-184B and lower, PS-183D and lower.

LIOT – Local Input/Output Task.

Local Anti-Passback Mode – Anti-passback application that involves only one controller. See also and "Central Anti-Passback Mode" and "Shared Anti-Passback Mode."

Logical State – Processed state (inactive/active/unknown) as indicated by the *Actual Value* attribute.

Mask – Set of 100 flags which are used by the Access Control Object's access decision algorithm and the Alternate Access, Override, Central Status, Anti-Passback, Occupancy, Anti-Loitering, Team Processing and Card Event features.

MCE – Metasys Control Engine, the operating environment for MCE object instances.

Method (Functions) – A method is a function or procedure which is defined in an Object Type and can typically access the internal state of an object instance of that Object Type to perform some operation. The methods fall into two general categories:

- Methods used to support the general architecture. Such Methods are never accessed directly by other objects. Examples would be Add Object itself or the New Object method.
- Methods intended for direct access by other objects. Examples of methods of this type are Read/Write attributes and Commands.

See also: “Commands.”

Normal – Input state indicating the supervised input is in a Normal state; for 2-state input points this is the shorted condition of the supervised input; for 4-state input points this is the balanced condition of a calibrated input reporting mid-scale.

Notification – Message containing a set of related data that is sent to recipients outside of the controller.

Notification Class – A notification class defines how event notifications are prioritized according to To-Offnormal, To-Fault, and To-Normal events; whether these categories of events require acknowledgement (nearly always, by a human operator); and what destination devices or processes receive notifications.

Object Instance – An Instance of an Object Type is a unique occurrence of the Object Type complete with its own value for each of the defined attributes. See also: “Object Type.”

Object Type (Class) – The term Object Type is used in the object manuals as equivalent to the term Class. An Object Type denotes a set of objects that share a common structure (set of attributes) and common behavior (methods). See also: “Object Instance.”

Occupancy – The number of entities in an occupancy space. The occupancy application monitors and maintains that number and may enforce lower and/or upper limits.

Off-normal – Input state indicating the supervised input is in an Off-normal state; for 2-state input points, this is the open condition of the input, for 4-state input points this is the off-balanced condition of a calibrated input reporting off mid-scale below open circuit and above short circuit.

On box – Residing on the same supervising controller.

OS – Operating system.

Otis – Elevator manufacturer.

Override – A non-timed override that does not expire without outside intervention.

Owner – Entity referenced by an asset's configuration, enabling it to be the asset's owner for portals that perform asset processing. This reference can either be direct or indirect (through an entity group).

Parent-Child Relation – An object is a child of another object when it is defined under its parent object using the SCT. A parent-child relationship allows objects to reference each other without requiring configurable Object Reference attributes.

Physical State – Physical state (on/off) of the output after delay, flash and polarity handling.

PMI – Person Machine Interface (user interface).

Portal – The smallest unit protected by an access control system. The most common portal is a door.

Prioritization – Prioritization provides a means to ensure that alarms or event notifications with critical time considerations are not unnecessarily delayed. Priorities may be assigned to To-Offnormal, To-Fault, and To-Normal events individually within a notification class.

Properties – In the object manuals the term Properties refers to information kept by the Object Type to fully characterize an Attribute or a Command. See also: “Attributes.”

Public Access – Access to floor that is allowed based on the floor's assigned time zone.

Qualified – The point in the access decision that must be reached for an entity to be able to contribute to the team processing feature.

RDR2 – Johnson Controls S300-RDR2 hardware module.

RDR2S – Johnson Controls S300-DIN-RDR2S hardware module.

RDR2S-A – Johnson Controls S300-DIN-RDR2SA hardware module.

RDR8S – Johnson Controls S300-DIN-RDR8S hardware module.

Reader Terminal – A terminal, as defined by the P2000, which resides on a version of the RDR2 or RDR2S field controller that cannot run a Door Sequence Object, but requires the Door Sequence Object to be run on its supervisory controller.

Reduced State – Interim state (inactive/active) of the output before delay, flash and polarity handling.

Reply – Any message from “slave” to “master.”

Request – Any message from “master” to “slave.”

RIOT – Remote Input/Output Task.

RTOS – Real Time Operating System.

S300 – Johnson Controls Security Solutions line of hardware modules.

Sector – Describes a section of the controller's dynamic database in which an Access Control Object can store the time that each entity is identified. This information is used in asset, entity and group processing.

Secure Floor – Access to floor is not allowed.

Security Model – Alternative access model designed for temporary use in emergency mode.

Shared Anti-Passback Mode – Distributed anti-passback application with several distributed anti-passback status databases. See also “Central Anti-Passback Mode” and “Local Anti-Passback Mode.”

SI8 – Johnson Controls S300-SI8 hardware module.

SIO8 – Johnson Controls S300-SIO8 hardware module.

Slave – Object to be commanded in either True Action List or the False Action List.

SNR – Status Notification Report.

Source Objects – Objects to read attribute from to decide if the condition is True or False.

Space – Describes the physical space handled by a single occupancy application. This space not have to be contiguous, but may be a collection of separate rooms across the facility, as long as all portals to that space are on the same controller.

Specifying – When referring to an attribute, specifying any data means conveying information into the object from the outside world.

Supervisory Controller – Access control device which supervises field devices.

Terminal – Logical grouping of related inputs and outputs on one or more hardware modules.

Timed Override – An override that will expire once the scheduled override time has elapsed.

Transition – The act of an entity passing through a portal. Transition can be an entry transition, an exit transition or both.

Triggers – Attribute references that the source objects sign up for.

Trunk – Johnson Controls S300 field bus.

UTC – Universal Coordinated Time.

Verification – The process of verifying an entity's identity after the entity has been identified.

Verifier – Identifier used for verification rather than for identification.