

Q&A from Webinar 4 – Decoded: Touchless Solutions for Healthy Environments
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I have heard people refer to low-energy automatic operators as power-assist, but it seems like they are two different things?

Yes – they are two different things according to the codes and standards, with different requirements. A low-energy operator opens the door automatically. A power-assist operator reduces the opening force, but the door must still be opened manually.

More info: <https://idighardware.com/2017/08/what-is-a-power-assist-operator/>

Is the stand-by power requirement in the building code, accessibility guidelines, NFPA, or ANSI standard? Does the standby power for an automatic operator have to be provided with a UPS, or is a generator backup that has a 15 second delay acceptable? When an operator has stand-by power, is there a certain number of times the door has to be able to open automatically?

The section on stand-by power is included in the ADA Standards and ICC A117.1, and it is only applicable to openings where the required maneuvering clearance is not provided on the egress side of the door. The standards do not mandate stand-by power for all automatic operators, although California does have a requirement for stand-by power under certain circumstances. The ADA Standards and ICC A117.1 do not specify the type of back-up power or the amount of time that the operators must function on the stand-by power, although the California does specify 100 cycles.

More info: <https://idighardware.com/2011/08/auto-operators-stand-by-power/>

With regard to automating a fire rated stairwell door, which devices need to be directly affected by the fire alarm?

NFPA 80 requires the automatic operator on a fire door to be deactivated upon fire alarm. If the door is locked on the stair side, it must unlock either via a switch at the fire command center (IBC) or via the fire alarm (NFPA 101). If a fail secure electric strike or electric latch retraction fire exit hardware is used to release the latch, power to those devices needs to be cut upon fire alarm. And just to clarify, if the door is locked on the stair side, it will require an fail safe electrified lock to allow reentry AND a means of releasing the latch for the automatic operator, such as a fail secure electric strike.

More info: <https://idighardware.com/2017/09/qq-more-on-stairwell-reentry/>

Are the wired holders fed through the frame or the door?

Generally, the wires for automatic-closing devices are not transferred into the door. The electrified portion of the device is mounted either on the frame head or on the wall.

More info: <https://us.allegion.com/content/dam/allegion-us-2/web-documents-2/Catalog/LCN Fire Life Safety Closers and Holders Catalog Section 109513.pdf>

Does the NFPA 80 requirement for operator power to drop upon fire alarm activation apply to all three types of powered door operators?

NFPA 80 does not specify which operators must comply, so the typical interpretation is that all operators on fire doors must be deactivated during a fire alarm.

More info: <https://idighardware.com/2020/07/touchless-fire-doors/>

Are closers with integrated smoke detectors approved by most AHJ's, if not all? Do some AHJ's require a fire alarm system tie-in?

At one time there were questions about whether automatic-closing devices with integrated smoke detectors were code-compliant, but this has been clarified in the codes. In most locations, these units are allowed by code, and are acceptable to the AHJ.

More info: <https://idighardware.com/2013/04/decoded-fusible-links-and-smoke-actuated-hold-opens/>

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More info: <https://idighardware.com/2017/09/qg-more-on-stairwell-reentry/>

Does the NFPA 80 requirement for operator power to drop upon fire alarm activation apply to all three types of powered door operators?

NFPA 80 does not specify which operators must comply, so the normal interpretation is that all operators on fire doors must be deactivated during a fire alarm, regardless of the type of operator.

More info: <https://idighardware.com/2020/07/touchless-fire-doors/>

Is push and go considered automatic or power assist?

Pushing or pulling a door is considered a “knowing act” when that action causes the door to open automatically after the door is opened manually a few degrees. An operator with the Push-N-Go feature which initiates the automatic operation of the door is an automatic operator, not a power assist operator.

More info: <https://idighardware.com/2017/08/qq-push-n-go-for-automatic-operators/>

Do low energy openers require a sign stating: "in emergency, push to open"?

This signage is required by A156.10 for automatic sliding doors with the “break-out” or “break-away” feature, but it is not required for swinging doors with low-energy operators. The signage requirements for automatic doors are outlined in the article linked below.

More info: <https://idighardware.com/2019/02/decoded-signage-for-automatic-doors-april-2019/>

Do the codes dictate the location of actuators for automatic operators?

This is not spelled out in the model codes, but it is covered in A156.19. The actuator location requirements were updated in the 2019 edition of the standard: *When a knowing act switch is used, it shall be installed in a location within view of the door; have an installation height of a minimum of 34 in. and a maximum of 48 in., or as specified by the local building codes; shall remain accessible from the swing side when the door is opened; and shall not be located in a position where the user would be in the path of the moving door. If located seven feet or more from the center of the door, there shall be an additional time delay of two seconds for each additional foot.* The article linked below includes the recommended locations from the previous edition of the standard, which is still applicable in some jurisdictions.

More info: <https://idighardware.com/2013/08/decoded-actuators-for-low-energy-operators/>

Do the same codes apply to a door entering the stairwell as a door egressing a stairwell?

The model codes include different requirements for doors entering the stairwell and the stair discharge doors which exit the stairwell. Stairwell reentry requirements apply to the doors entering the stairwell, but the discharge door is exempt from the reentry requirements. I will cover stairwell reentry in a future webinar, but the article and video below may help.

More info: <https://idighardware.com/2017/09/qg-more-on-stairwell-reentry/>

With battery-operated hold-open devices, what happens if the battery dies?

If the battery dies, the hold-open will automatically release and the door closer will close the door. The door will not hold open until the battery has been replaced.

More info: <https://us.allegion.com/en/home/products/categories/mechanical-accessories/glynn-johnson-280-sensaguard.html>

What exceptions would allow a door to unlatch with more than one operation?

One example would be entrance doors to individual dwelling units and sleeping units. These doors can have a separate night latch, deadbolt, or security chain that requires an additional releasing operation – if the occupant load of the unit is 10 people or less. Another example that is included in the 2018 edition of NFPA 101 is that existing classroom doors can have hardware that requires 2 operations to unlatch the door, if certain criteria are met. The IBC and IFC do not include this exception and require existing (and new) classroom doors to unlatch with one releasing operation.

More info: <https://idighardware.com/2016/09/decoded-dwelling-unit-sleeping-unit-entrance-doors/>
<https://idighardware.com/2019/10/decoded-two-releasing-operations-for-egress-december-2019/>

Does the foot pull conflict with the accessibility requirement for a flush, smooth surface on the bottom 10 inches of the door?

The requirement for a 10-inch flush surface applies to the push side face of manually-operated doors. If the foot pull is mounted on the pull side (this is typical), the projection of the pull does not conflict with the referenced requirement.

More info: <https://idighardware.com/2012/03/decoded-flush-bottom-rails/>

On protrusion limits, the accessibility standards specifically reference "objects with leading edges". Does this imply that if the feature starts flush with the wall and then ramps to more than 4 inches from the wall, it would be allowed?

This isn't specifically addressed in the accessibility standards, so it would be up to the AHJ's interpretation.

More info: <https://idighardware.com/2020/06/decoded-touchless-solutions-for-healthy-environments/>

Are door pulls on barn-style sliding doors typically more than 4 inches from the wall surface?

Door pulls vary in style, shape, size, and material. It's very possible that the projection of the pulls could be 4 inches from the door, while the door is also projecting from the corridor wall if it is mounted on the outside. It is unclear from the accessibility standards whether these protrusions are measured separately, with each having a limit of 4 inches.

More info: <https://idighardware.com/2018/03/code-requirements-for-manual-sliding-doors/>

Do automatic doors located in a corridor wall require a relay tied to the fire alarm system, so that they can latch?

This is not specifically addressed in the codes, but after thinking about it I don't think the intent of the model codes is to require operators on all corridor doors to be deactivated upon fire alarm – unless the door is a fire door. I would have to know more about the specific situation to give a definitive answer.

More info: <https://idighardware.com/2020/07/touchless-fire-doors/>

If we have a sensor above the door set to a 12-inch detection range, can this be considered a knowing act?

In my opinion, a sensor above the door would not be considered a knowing act, and with a detection range of 12 inches it wouldn't be very usable. A touchless switch with a detection range of 12 inches or less is considered a knowing act.

More info: <https://idighardware.com/2016/03/fixed-non-contact-switches/>

Can low-energy door operators be installed on fire doors?

It is permissible to install a low-energy operator on a fire door as long as the operator is listed to UL 10C, and the operator is automatically disconnected upon activation of the fire alarm system.

More info: <https://idighardware.com/2020/07/touchless-fire-doors/>

I know you said silver ions are not effective against viruses (only bacteria), but what about copper?

A lot of research is being done into the effectiveness of copper and other materials, and I think we will have more options in the near future.

More info: <https://www.smithsonianmag.com/science-nature/copper-virus-kill-180974655/>

I had an ADA consultant tell me that I could use auto operators to eliminate door-clearance requirements as long as the door remained open in the event of a power outage. I've never seen that configuration. Is there a way to do that?

I have seen that done with pneumatic operators...there may be a way to use electric operators with back-up power but I have not specified it that way.

More info from the 2010 ADA: *Where automatic doors and gates remain open in the power-off condition, compliance with 404.2.4 shall not be required.*

Don't fire door requirements trump ADA?

In general, no. Fire doors are exempt from the opening force requirements of the accessibility standards, but must comply with other requirements such as closing speed, clear opening width, etc. One doesn't trump the other...both sets of standards must be met, as well as the model code requirements and any state modifications.

More info:

<http://idighardware.com/2016/01/intro-to-codes-video/>

<http://idighardware.com/2017/05/decoded-accessibility-requirements-for-door-openings-video/>

<http://idighardware.com/2017/03/decoded-egress-requirements-for-door-openings-video/>

<http://idighardware.com/2015/08/anatomy-of-a-fire-door-video/>

What is the minimum maneuvering clearance dimension from the lever to a wall on the pull side of a door where only a latch is provided?

This depends on the direction of approach, so it's best to look at either the ADA Standards, ICC A117.1, or the state accessibility standards as applicable. The ADA standards can be downloaded using the link below.

More info: https://www.ada.gov/2010ADASTandards_index.htm

Does a door exiting a fire-rated stairwell have to comply with accessibility clearances on the push side?

There is no exemption for stairwell doors in the section of the accessibility standards that addresses maneuvering clearances for manually-operated doors. So yes, those doors are supposed to comply.

More info: <https://idighardware.com/2019/10/latch-side-clearance/>

What is the correct terminology for a low-energy operator that can provide power-assist during manual opening of the door?

The term is a power-assist operator. The operator reduces the opening force but the door still has to be opened manually.

More info: <https://idighardware.com/2017/08/what-is-a-power-assist-operator/>