ifm syntron

Heat Dissipation

3D camera

According to the standard IEC61010-2-201 the surface temperature of easily touchable surfaces shall not exceed the ambient temperature by more than 25°C. The installer of the camera has the responsibility to ensure that this requirement is fulfilled for the camera.

The surface temperature depends on the image acquisition modes, exposure time settings, the frame rate and the thermal contact of the camera to the environment.

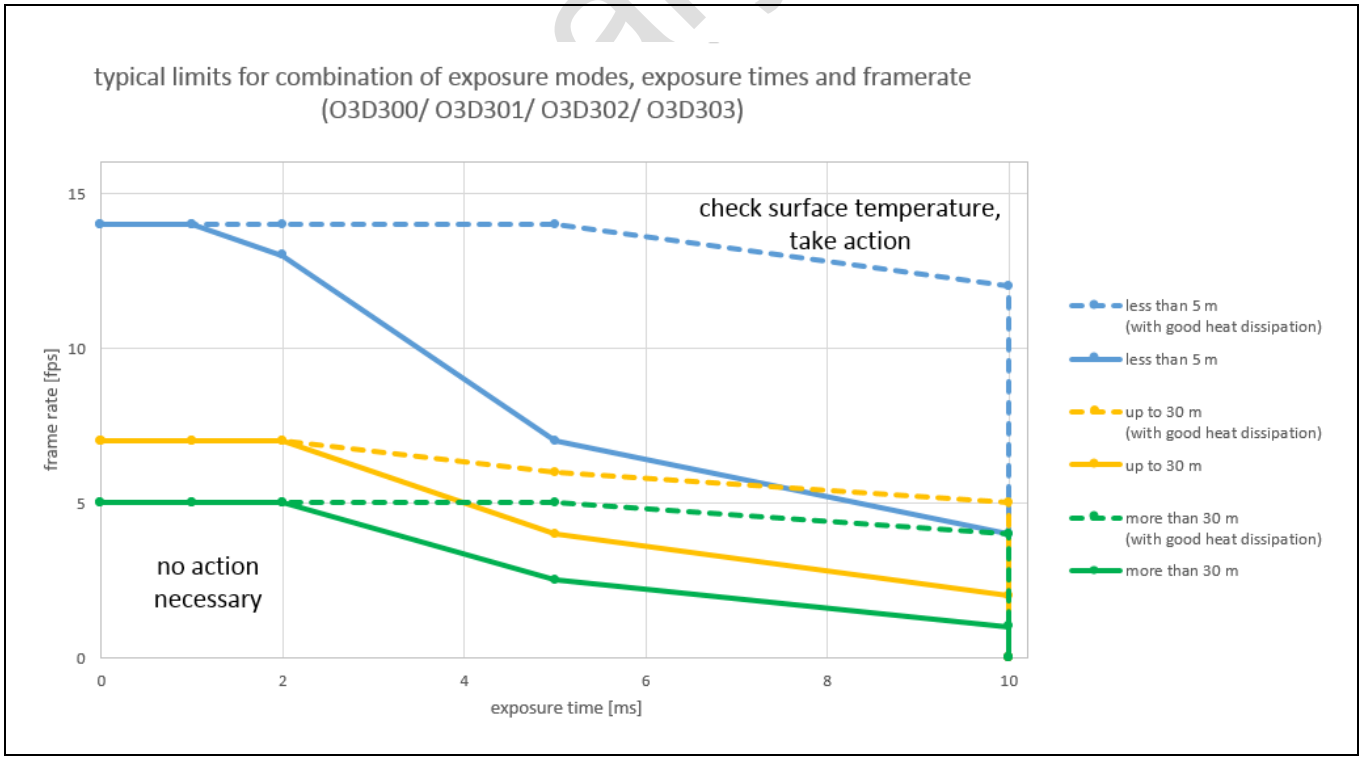
One of the possible measures to reduce the surface temperature is the reduction of the frame rate. This can be done by reducing the "target frame rate". The ifmVisionAssist displays an indication whether the surface temperature may be within the limits or may exceed the limits. This is an indication only and no substitute for a proper check.

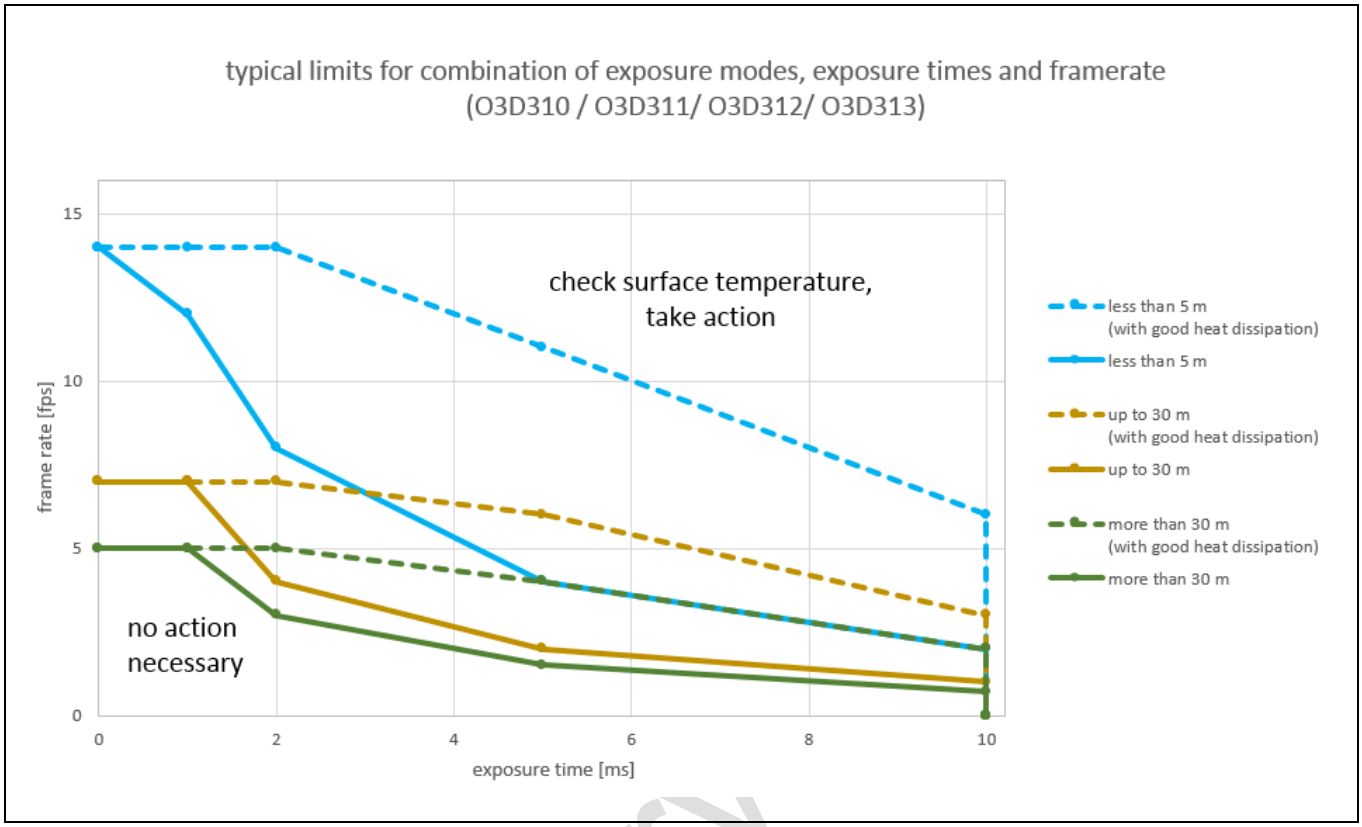
The following charts show typical limits for which combinations of exposure modes, exposure times and frame rates the camera is likely to stay within the limits and when additional cooling measures or other precautions such as protection against contact are necessary. Again, the charts are meant to be a guide only and do not replace proper checks by the camera installer.

The diagram is valid for

- one exposure time (“low” dynamics”) as it is.
- two or three exposure times (“moderate” or “high” dynamics), if the exposure times are added and the sum is used to determine the warning level.

The exposure times are displayed by the ifmVisionAssistant.





Take one or several of the following measures to reduce surface temperature:

- Preferably mount camera to large metal parts which are good heat conductors such as e.g. aluminium. A good thermal contact between camera and camera mounting increases the dissipation of excess heat. A heat conducting plate is available as separate accessory.
- Allow the circulation of air around the camera to allow thermal convection. Mounting positions directly under a roof or in cramped areas may lead to heat accumulation.
- Thermal convection may be further improved by using one or two heat dissipators which are available as separate accessories.
- The camera temperature may also be reduced by reducing the following operation parameters of the camera:
  - frame rate
  - exposure time
  - maximum measurement distance (number of used frequencies)