

- Operator selection of Duty/Standby device
- Changeover on device failure or process condition
- Bumpless transfer
- Equipment status and hours run indication

Duty/Standby Control Module Application Note

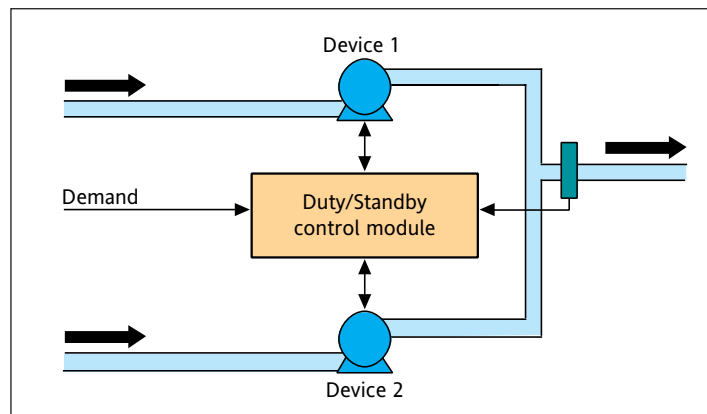
Plant activities that may be deemed critical require a higher level of backup functionality. This can be in the form of a pump or other device set. In order to deliver this backup functionality, these device sets must be able to automatically react to plant conditions such as device failure.

In addition to the plant backup facilities, device sets can also allow for equal workload distribution and offer 'maintenance-aware' options such as hours run logging and automatic changeover.

One of a range of control modules designed by Eurotherm Process Automation, incorporating efficient control techniques and supplying this functionality, is the Duty/Standby control module.

The Duty/Standby arrangement allows a pair of devices - typically On/Off or variable speed drives - to be operated with an element of redundancy. Each device is capable of matching the plant demand and, thus, normally only one device is run at any one time. Should the running device fail, the remaining device is automatically requested to run.

One device is referred to as the 'Duty' while the other device is the 'Standby'. The choice of which device acts as Duty is known as the Service. In normal running operation, the Duty is running and the Standby is stopped.



Some of the functions provided by the Duty/Standby control module are:

- Operator selection of Duty/Standby device when in Manual
- Changeover on device failure or process condition when in Automatic
- Bumpless transfer
- Equipment status and hours run indication

Operator selection of Duty/Standby device

In normal running operations, the operator may request a changeover such that the Standby device is started. When the control module successfully starts the Standby device, the Service is changed. Following a Duty device failure, the operator may also request to 'make duty' the running Standby without altering the state of either device.



Changeover on device failure or process condition

The control module may act, as a result of a single failure or a process condition, by scheduling the control devices in a single direction only, i.e. automatically starting the Standby device as a result of the failure of a running Duty device but not starting the Duty device if the Standby device fails.

Bumpless transfer

Mode selection (Manual or Auto) is initiated by the operator with bumpless transfer, preventing abrupt changes in the output that could otherwise cause damage to field equipment and destabilise the plant process.

Equipment status and hours run indication

The control module offers a comprehensive Man-Machine Interface by providing continuous monitoring of device status and alarming capabilities. It can also offer additional features such as running time for each device for maintenance purposes.

Some of the advantages offered by the implementation of a Duty/Standby device set are

- Redundancy
- Easier maintenance
- Quick diagnosis of failures
- Reduction/elimination of down time

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