
Features

- Part of the apparatus control function
- Handling of commands from different operator places
- Supervision of the time between a select and the execute command

Application

The complete apparatus control function handles open and close commands of high voltage apparatuses and their status indications in a bay. Permission to operate is granted after that several conditions are evaluated, such as interlocking status, synchro-check, operator mode or other external conditions.

The purpose of this function block COMCON is to handle commands coming from different operator places.

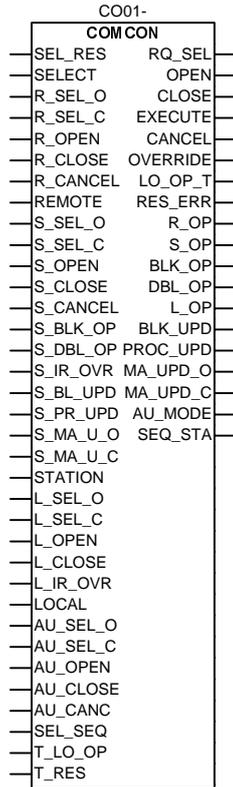
Design

The apparatus control function consists of totally four main types of standardized function blocks BAYCON, COMCON, SWICON and BLKCON, all to be configured to reflect the switchyard arrangement. The number and

type of blocks used in the terminal depends on the number and type of apparatuses to control.

This main type COMCON is used one per apparatus and has no variants.

Function block



xx00000598.vsd

Input and output signals

Table 1: Input signals for the COMCON (COnn-) function block

Signal	Description
SEL_RES	Input for reset of selection after operation
SELECT	Input stating that a correct selection and reservation is made in the bay
R_SEL_O	Selection for opening the apparatus from Remote (pulse input)
R_SEL_C	Selection for closing the apparatus from Remote (pulse input)
R_OPEN	Execute command for opening the apparatus from Remote (pulse input)
R_CLOSE	Execute command for closing the apparatus from Remote (pulse input)
R_CANCEL	Input for cancelling an operation from Remote (pulse input)
REMOTE	Input for indicating Remote as valid operator place
S_SEL_O	Selection for opening the apparatus from Station (pulse input)
S_SEL_C	Selection for closing the apparatus from Station (pulse input)
S_OPEN	Execute command for opening the apparatus from Station (pulse input)
S_CLOSE	Execute command for closing the apparatus from Station (pulse input)
S_CANCEL	Input for cancelling an operation from Station (pulse input)
S_BLK_OP	Input for blocking operation from Station (pulse input)

Signal	Description
S_DBL_OP	Input for deblocking operation from Station (pulse input)
S_IR_OVR	Input for overriding selection and reservation from Station (pulse input)
S_BL_UPD	Input for blocking process updating from Station (pulse input)
S_PR_UPD	Input for resuming process updating from Station (pulse input)
S_MA_U_O	Input for manual entry of open position from Station (pulse input)
S_MA_U_C	Input for manual entry of close position from Station (pulse input)
STATION	Input for indicating Station as valid operator place
L_SEL_O	Selection for opening the apparatus from Local
L_SEL_C	Selection for closing the apparatus from Local
L_OPEN	Execute command for opening the apparatus from Local
L_CLOSE	Execute command for closing the apparatus from Local
L_IR_OVR	Input for overriding selection and reservation from Local
LOCAL	Input for indicating Local as valid operator place
AU_SEL_O	Selection for opening the apparatus from an automatic function (pulse input)
AU_SEL_C	Selection for closing the apparatus from an automatic function (pulse input)
AU_OPEN	Execute command for opening the apparatus from an automatic function (pulse input)
AU_CLOSE	Execute command for closing the apparatus from an automatic function (pulse input)
AU_CANC	Input for cancelling an operation from an automatic function (pulse input)
SEL_SEQ	A sequence program is performing an operation
T_LO_OP	Maximum time between a select and the execute command coming from the operator. Also the maximum time between the request to override and the following select.
T_RES	Allowed time (for BAYCON) to make the reservation.

Table 2: Output signals for the COMCON (COnn-) function block

Signal	Description
RQ_SEL	Request selection output
OPEN	Open direction output
CLOSE	Close direction output
EXECUTE	Output signal to execute the operation
CANCEL	Output signal to cancel any operation before an execute command
OVERRIDE	Output signal to override an interlocking and reservation
LO_OP_T	Indication of a long operation time
RES_ERR	Indication of a failure in the reservation
R_OP	HMI indication stating that Remote is valid operator place
S_OP	HMI indication stating that Station is valid operator place
BLK_OP	Output signal for blocking the operation (pulse output)
DBL_OP	Output signal for deblocking the operation (pulse output)
L_OP	HMI indication stating that Local is valid operator place
BLK_UPD	Output signal for blocking the process updating (pulse output)
PROC_UPD	Output signal for resuming the process updating (pulse output)
MA_UPD_O	Output signal for manual setting of open position, when the updating is blocked (pulse output)
MA_UPD_C	Output signal for manual setting of close position, when the updating is blocked (pulse output)
AU_MODE	HMI indication that an automatic function is performing an operation i.e. input AU_SEL_O/C is set
SEQ_STA	Indicate that the apparatus is reserved by the input SEL_SEQ and is not in Local position

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