# CCW_ACK = 0

## NEXO/CS351/KE350: CCWLock assigned

(for KE350 typically start CCW not assigned/used here)

| OGS State | Userlevel | CCWLock | Programm for Start CW | Programm for Start CCW |
|---|---|---|---|---|
| Tighten | Operator | 1 | config | No start |
| | Supervisor | 0 | config | 99 |
| Loosen | Operator | 1 | loosen | No start |
| | Supervisor | 0 | loosen | 99 |

## NEXO/CS351: CCWIgnore assigned (do not use)

(not possible for KE350, as there is no CCWIgnore signal for FO 1)

| OGS State | Userlevel | CCWLock | Programm for Start CW | Programm for Start CCW |
|---|---|---|---|---|
| Tighten | Operator | 1 | config | config |
| | Supervisor | 0 | config | config |
| Loosen | Operator | 1 | loosen | loosen |
| | Supervisor | 0 | loosen | loosen |

## NEXO/CS351/KE350: CCWLock/CCWIgnore not assigned

For CS351/NEXO: Start button with ring set to CCW always starts Prg.99

(for KE350 typically start CCW not used here)

| OGS State | Userlevel | CCWLock CCWIgnore | Programm for Start CW | Programm for Start CCW |
|---|---|---|---|---|
| Tighten | Operator | (0) | config | 99 |
| | Supervisor | (0) | config | 99 |
| Loosen | Operator | (0) | loosen | 99 |
| | Supervisor | (0) | loosen | 99 |

**NOTES**:

- CS351 in spindle mode (with external start switch) behaves identical to KE350, except that CS351 provides CCWIgnore.
- For CS351 ErgoSpin and Nexo is CCWSel hardwired, so CCWSel is always = 1 for start CCW and always = 0 for start CW.

# CCW_ACK = 1

## NEXO/CS351/KE350: CCWLock assigned (better use CCWIgnore)

(for KE350 typically start CCW not assigned/used here)

| OGS State | Userlevel | CCWLock | CCWSel | En | Programm bei Start CW | Programm bei Start CCW |
|---|---|---|---|---|---|---|
| Tighten | Operator | 1 | 0 | 1 | config | - |
| | | 1 | 1 | 0 Popup | - | - |
| | Supervisor | 0 | 0 | 1 | config | 99 |
| | | 0 | 1 | 1 | config | 99 |
| Loosen | Operator | 1 | 0 | 1 | loosen | - |
| | | 1 | 1 | 0 Popup | - | - |
| | Supervisor | 0 | 0 | 1 | loosen | 99 |
| | | 0 | 1 | 0 | loosen | 99 |

NOTE: For ErgoSpin is CCWSel hardwired, so always = 1 for start CCW and always = 0 for start CW.

## NEXO/CS351: CCWIgnore aufgelegt

(not possible for KE350, as there is no CCWIgnore signal for FO 1)

| OGS State | Userlevel | CCWIgnore | CCWSel | En | Programm bei Start CW | Programm bei Start CCW |
|---|---|---|---|---|---|---|
| Tighten | Operator | 1 | 0 | 1 | config | - |
| | | 1 | 1 | 0 Popup | - | - |
| | Supervisor | 0 | 0 | 1 | config | 99 |
| | | 0 | 1 | 1 | config | 99 |
| Loosen | Operator | 1 | 0 | 1 | loosen | - |
| | | 1 | 1 | 0 Popup | - | - |
| | Supervisor | 0 | 0 | 1 | loosen | 99 |
| | | 0 | 1 | 0 ???? | loosen | 99 |

## NEXO/CS351/KE350: CCWLock/CCWIgnore not assigned

For CS351/NEXO: Start button with ring set to CCW always starts Prg.99

(for KE350 typically start CCW not used here)

| OGS State | Userlevel | CCWIgnore CCWLock | CCWSel | En | Programm bei Start CW | Programm bei Start CCW |
|---|---|---|---|---|---|---|
| Tighten | Operator | (0) | 0 | 1 | config | 99 |
| | | (0) | 1 | 0 Popup | - | - |
| | Supervisor | (0) | 0 | 1 | config | 99 |
| | | (0) | 1 | 1 | config | 99 |
| Loosen | Operator | (0) | 0 | 1 | loosen | 99 |
| | | (0) | 1 | 0 Popup | - | - |
| | Supervisor | (0) | 0 | 1 | loosen | 99 |
| | | (0) | 1 | 0 ???? | loosen | 99 |

**NOTES**:

- CS351 in spindle mode (with external start switch) behaves identical to KE350, except that CS351 provides CCWIgnore.
- For CS351 ErgoSpin and Nexo is CCWSel hardwired, so CCWSel is always = 1 for start CCW and always = 0 for start CW.

# NokAck

If NokAck is assigned in the PLC assignnment table, the each NOK result must be acknowledged, before the tool can be enabled for the next rundown (internally in the tightening system, this is out of scope of OGS).

[GENERAL]

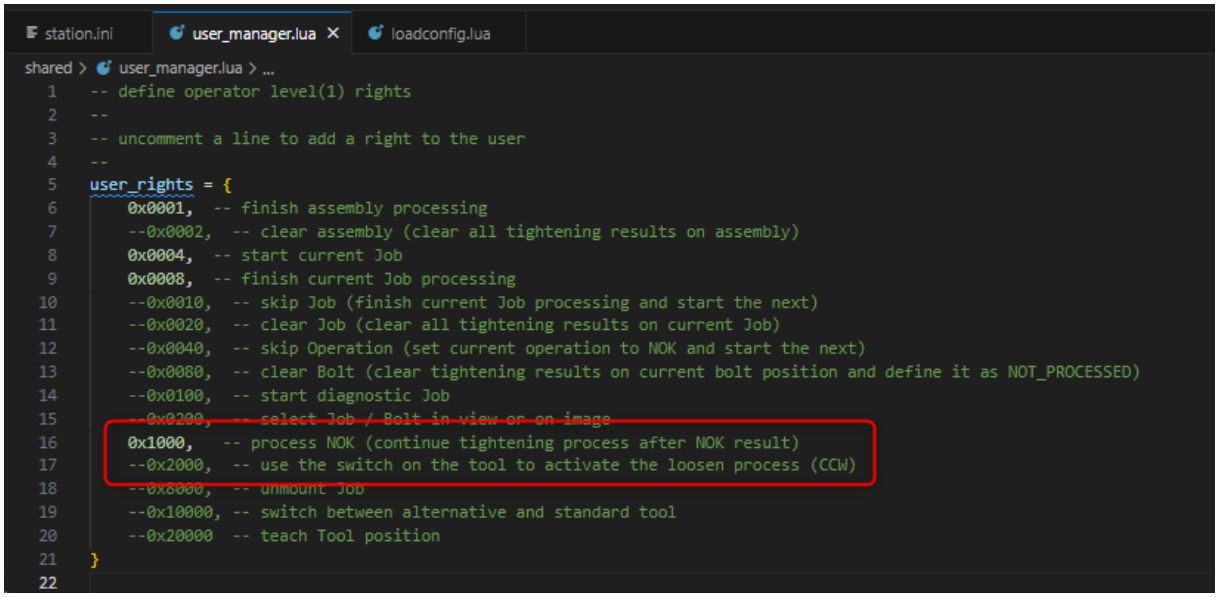
NOK_Strategie=0:

Tighten NOK → Loosen → Tighten Nok → Loosen

NOK_Strategie=2:

Tighten NOK → Tighten (CW) or Loosen (CCW) → Tighten

# User rights


station.ini
user_manager.lua
loadconfig.lua
shared > user_manager.lua > ...
-- define operator level(1) rights
--
-- uncomment a line to add a right to the user
--
user_rights = {
0x0001, -- finish assembly processing
--0x0002, -- clear assembly (clear all tightening results on assembly)
0x0004, -- start current Job
0x0008, -- finish current Job processing
--0x0010, -- skip Job (finish current Job processing and start the next)
--0x0020, -- clear Job (clear all tightening results on current Job)
--0x0040, -- skip Operation (set current operation to NOK and start the next)
--0x0080, -- clear Bolt (clear tightening results on current bolt position and define it as NOT_PROCESSED)
--0x0100, -- start diagnostic Job
--0x0200, -- select Job / Bolt in view or on image
0x1000, -- process NOK (continue tightening process after NOK result)
--0x2000, -- use the switch on the tool to activate the loosen process (CCW)
--0x8000, -- unmount Job
--0x10000, -- switch between alternative and standard tool
--0x20000 -- teach Tool position
}