



# XCRANE FEATURES

## 6 DIFFERENT DRIVERS

- ☐ Each driver has own set of parameters to adjust
  - Valve parameters
    - Minimum current (mA)
    - Max speed (%)
    - Ramps (ms)
      - Acceleration
      - Deceleration
    - Progression control (factor)
      - exponential control curve
    - Technion quick trim (factor)
      - General speed of movements
    - Rotator direction change
  - Joystick Parameters
    - Dead band (%)
    - Filter (factor)
    - Calibration

- ☐ Parameters can be adjusted from display

## VALVE CONFIGURATIONS

- ☐ Predefined list of valves that can be used in the system
  - New Valves can be added to list
- ☐ Configuration items:
  - Max current for both directions
  - Dither parameters for both direction
    - Amplitude
    - Frequency
  - Fault behavior
    - Turn off both or just faulty output



## CONTROL FUNCTIONS FOR VALVES

### Basic functions

- ☐ Slew
- ☐ Lift
- ☐ Outerboom
- ☐ Rotator
- ☐ Boom extension
- ☐ Grapple

### Optional functions

- ☐ **Stabilizers (Left/right)**
  - Control from joysticks
    - Change between crane/Stabilizers via switch or button
  - On-Off-On buttons
- ☐ **Floating**
  - Activating:
    - Button
      - Optional activation from display
      - Without confirmation
        - Sequence activation
          - Press for 2 seconds
          - Release
          - Press again within 1 second
        - Deactivation
          - press for 500ms
    - Switch activation
  - Software disables Slew, Lift and Outer boom movements automatically
  - Disabling other movements can be configured



## ❑ **Steering**

- Separate joystick (Thumb wheel etc.)
- Right joystick X-axis (disables rotator)
  - Varieties of configurations for activating function:
    - Switch
    - Speed dependent
- Valtra CAN bus:
  - Possibility to replace Valtra rear steering wheel
  - Over speed handling (disables Valtra drive, set gear to N, if speed is over limit)
  - Valtra driving direction control (F-N-R and Park)

## ❑ **Axle lock**

- switch or speed dependent activation

## ❑ **Trailer traction control (On-Off/Proportional)**

- On-Off
  - Local connection
    - pins can be configured
- Proportional control
  - Local connection
    - Potentiometer
    - Pulse sensor
    - Pins can be configured for both methods
  - Machine driving speed
    - From J1939 bus
  - Speed control curve can be configured
    - Speed/Potentiometer value to valve control

## ❑ **Cabin angle control**

- From separate joystick (Thumb wheel etc.)

## ❑ **Trailer brakes**

- Functions needs to be enabled
- Certain conditions must be met to activate brakes
  - Needs information from J1939
    - Driving direction and park brake states needed

## ❑ **Crane lights**

- Activate via switch



## SAFETY FUNCTIONS

- ☐ Door switch
  - Local connection
  - Pins can be configured
- ☐ Seat switch
  - Local connection
    - Pins can be configured
  - CAN bus information
    - From Machine can bus (J1939)
  - Operator present confirmation from display
    - Function can be configured
- ☐ Dead man switch
  - Local connection
    - Pins can be configured
  - Time variables can be configured
    - Active time
    - Button pressing time

## SENSORS

- ☐ Configure items for sensors:
  - Pins
  - Sensor types
  - Measurement limits
    - input values
    - output values
  - Signal filtering
- ☐ Variety of sensor
  - Outside temperature
  - Hydraulic oil temperature
  - Hydraulic oil pressure
  - Load pressure
    - Inclination symbol in work view
      - OK
      - Warning
      - Over load
    - Pressure value in diagnostic page
  - Oil pressure filter switch
  - Cylinder length measurement
    - Analog sensors
    - CAN bus sensors
  - Cylinder end damping sensors
    - Inductive sensors
    - Length measurement



## **TIP CONTROL / PARALLEL CONTROL**

- ☐ Requires cylinder length measurements
- ☐ Modes can be changed from display
- ☐ Variety of parameters for user

## **Open loop parallel control**

- ☐ Left joystick Y-axis controls lift and Outer boom
- ☐ Right joystick X-axis is used for correcting movement (Changes the control ratio for Outer boom and Lift)
- ☐ Movement parameters for user