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Parameters and alarms

Railsystem V0101

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1) Machineparameters

1.1) *Overview machine parameters*

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1.2) Machine parameters details

01 Sorting method

- 0 = Lane choice with buttons
- 1..4 = All clamps to lane 1..4
- 5 = Use all lanes together

02 Use code of button of first clamp

If value is 1, the lane is chosen according to the button used on the 1st clamp. Otherwise the button pushed on the 2nd clamp is used.

03 Time-out proximity switch sorting chain

If the sorting chain is running, the proximity switch must have 2 pulses between this time, otherwise a time-out warning will be displayed. Time is in steps of 10ms.

04 Standby time sorting chain

If the sorting chain isn't used for this time, the chain will stop. Restart will be done automatically. Value 0 means don't use standby function. Value is in seconds.

11 Delay switch between full clamp lanes

If another full clamp lane will be chosen to send clamps tall gates are blocked for this time to prevent collision of clamps. Time is in 10ms steps.

12 Delay switch between empty clamp lanes

If another empty clamp lane is chosen to send clamps to the stations, the gate is blocked for this time to prevent collision of clamps. Time is in 10ms steps.

16 Debounce time clamp in full clamp gate

A sensor in a full clamp gate has to be covered for this time before the gate is allowed to start. Time is in steps of 10ms.

17 Debounce time clamp in empty clamp gate

A sensor in an empty clamp gate has to be covered for this time before the gate is allowed to start. Time is in steps of 10ms.

18 Debounce time clamp in chain gate

A sensor in a chain gate behind a Daniela has to be covered for this time before the gate is allowed to start. Time is in steps of 10ms.

21 Time full clamp gate activated

A pneumatic full clamp gate will be activated for this time to push out the clamps. This is the time the cylinder is activated in steps of 10ms.

22 Time empty clamp gate activated

A pneumatic empty clamp gate will be activated for this time to push out the clamps. This is the time the cylinder is activated in steps of 10ms.

23 Time chain gate activated

A chain gate behind a Daniela will be activated for this time to push out the clamps. This is the time the cylinder is activated in steps of 10ms. Value 0 means active until next catch seen.

26 Debounce time full clamp lane full

The time the sensor full clamp lane full must be (un)covered to (re)set the lane full flag. Time is in steps of 10ms.

27 Debounce time empty clamp lane full

The time a sensor empty clamp lane (half)full must be (un)covered to (re)set the lane full flag. Time is in steps of 10ms.

28 Debounce time chain gate full

The time a sensor in the buffer behind a Daniela must be (un)covered to (re)set the lane full flag. Time is in steps of 10ms.

31 Time release arms Daniela activated

The time the release arms of a Daniela are opened to open the clamps when the release button is pushed. Time is in steps of 10ms.

32 Daniela height

The distance a motor of a Daniela runs to transport the 2nd clamp out of the station. Is almost the same as the height of the Daniela in steps of chain parts.

36 Position lane changer first lane

The position in the chain where the lane changer for sending the clamps to lane 1 is. Is in steps of chain parts.

37 Moment lane changer to lane 1

The delay between a rising edge of the proximity switch of the sorting chain and the moment the lane changer of lane 1 is activated. Time is in steps of 10ms.

38 Moment lane changer to lane 2

The delay between a rising edge of the proximity switch of the sorting chain and the moment the lane changer of lane 2 is activated. Time is in steps of 10ms.

39 Moment lane changer to lane 3

The delay between a rising edge of the proximity switch of the sorting chain and the moment the lane changer of lane 4 is activated. Time is in steps of 10ms.

41 Minimum to process from active lane

For automatic calling of clamps to the feeder, this is the number of clamp pairs a chosen lane stays active. If a lane isn't active for this number of pairs, it will receive an extra point.

42 Drying time not active lane

For automatic calling of clamps to the feeder, this is the drying time of the pieces. If a lane has not been active for this time, it will receive an extra point. Value is in seconds.

43 Time gate empty for short empty detection

For automatic calling of clamps to the feeder, this is the time a gate has to be empty until no points for lane not empty are added. Time is in 100ms steps.

44 Time gate empty for long empty detection

For automatic calling of clamps to the feeder, this is the time a gate has to be empty until the points are decreased because the lane is empty too long. Time is in seconds.

45 Nr of pairs lane full points stay active

For automatic calling of clamps to the feeder, a lane gets extra points when a lane gets full. These extra points will stay until this number of pairs is taken out of this lane.

51 CAN-bus stationnumber this PLC

Stationnumber of this PLC. Every PLC in a CAN network has to have a unique stationnumber.

52 CAN-bus baudrate

Baudrate/communicationspeed of this PLC. Every PLC in a CAN network has to be adjusted to the same baudrate.

53 Delay return to home screen

When the main screen is not activated, and the screen isn't used for this time, the main screen will be activated again. Steps of seconds (0=disabled).

54 Counter to display in overview screen

The counter per Daniela in the main screen:

1 = Total counter

2 = Counter of today

3 = Current average per hour

61 Transport height button 1 Daniela 1

The transport distance of the 1st clamp when startbutton 1 is pushed. Distance is in Daniela chain parts.

62 Transport height button 2 Daniela 1

The transport distance of the 1st clamp when startbutton 2 is pushed. Distance is in Daniela chain parts.

63 Transport height button 3 Daniela 1

The transport distance of the 1st clamp when startbutton 3 is pushed. Distance is in Daniela chain parts.

64 Transport height button 4 Daniela 1

The transport distance of the 1st clamp when startbutton 4 is pushed. Distance is in Daniela chain parts.

66 Delay start gate Daniela 1

The delay between a rising edge of the proximity switch on the sorting chain and the moment the chain gate of the Daniela starts. Time is in steps of 10ms.

67 Position gate in chain Daniela 1

The position of the chain gate of the Daniela. Is used for correct sorting. Position is in sorting chain parts.

68 Empty clamp lane outputs Daniela 1

This value gives the output value for the empty lane switches when this Daniela needs to receive clamps:

0 = No output on

1 = Output 1 on

2 = Output 2 on

3 = Output 1 and 2 on

71 Transport height button 1 Daniela 2

The transport distance of the 1st clamp when startbutton 1 is pushed. Distance is in Daniela chain parts.

72 Transport height button 2 Daniela 2

The transport distance of the 1st clamp when startbutton 2 is pushed. Distance is in Daniela chain parts.

73 Transport height button 3 Daniela 2

The transport distance of the 1st clamp when startbutton 3 is pushed. Distance is in Daniela chain parts.

74 Transport height button 4 Daniela 2

The transport distance of the 1st clamp when startbutton 4 is pushed. Distance is in Daniela chain parts.

76 Delay start gate Daniela 2

The delay between a rising edge of the proximity switch on the sorting chain and the moment the chain gate of the Daniela starts. Time is in steps of 10ms.

77 Position gate in chain Daniela 2

The position of the chain gate of the Daniela. Is used for correct sorting. Position is in sorting chain parts.

78 Empty clamp lane outputs Daniela 2

This value gives the output value for the empty lane switches when this Daniela needs to receive clamps:

- 0 = No output on
- 1 = Output 1 on
- 2 = Output 2 on
- 3 = Output 1 and 2 on

81 Transport height button 1 Daniela 3

The transport distance of the 1st clamp when startbutton 1 is pushed. Distance is in Daniela chain parts.

82 Transport height button 2 Daniela 3

The transport distance of the 1st clamp when startbutton 2 is pushed. Distance is in Daniela chain parts.

83 Transport height button 3 Daniela 3

The transport distance of the 1st clamp when startbutton 3 is pushed. Distance is in Daniela chain parts.

84 Transport height button 4 Daniela 3

The transport distance of the 1st clamp when startbutton 4 is pushed. Distance is in Daniela chain parts.

86 Delay start gate Daniela 3

The delay between a rising edge of the proximity switch on the sorting chain and the moment the chain gate of the Daniela starts. Time is in steps of 10ms.

87 Position gate in chain Daniela 3

The position of the chain gate of the Daniela. Is used for correct sorting. Position is in sorting chain parts.

88 Empty clamp lane outputs Daniela 3

This value gives the output value for the empty lane switches when this Daniela needs to receive clamps:

- 0 = No output on
- 1 = Output 1 on
- 2 = Output 2 on
- 3 = Output 1 and 2 on

91 Transport height button 1 Daniela 4

The transport distance of the 1st clamp when startbutton 1 is pushed. Distance is in Daniela chain parts.

92 Transport height button 2 Daniela 4

The transport distance of the 1st clamp when startbutton 2 is pushed. Distance is in Daniela chain parts.

93 Transport height button 3 Daniela 4

The transport distance of the 1st clamp when startbutton 3 is pushed. Distance is in Daniela chain parts.

94 Transport height button 4 Daniela 4

The transport distance of the 1st clamp when startbutton 4 is pushed. Distance is in Daniela chain parts.

96 Delay start gate Daniela 4

The delay between a rising edge of the proximity switch on the sorting chain and the moment the chain gate of the Daniela starts. Time is in steps of 10ms.

97 Position gate in chain Daniela 4

The position of the chain gate of the Daniela. Is used for correct sorting. Position is in sorting chain parts.

98 Empty clamp lane outputs Daniela 4

This value gives the output value for the empty lane switches when this Daniela needs to receive clamps:

0 = No output on

1 = Output 1 on

2 = Output 2 on

3 = Output 1 and 2 on

2) Alarms

001 EMERGENCY STOP

One of the emergency stops is//has been pushed. When no emergency switch is active anymore, the emergency stop can be reset with the 'reset' button.

003 VARAN-BUS ERROR

The connection with one or more backplanes on the varan IO-bus is lost. As soon as connection is re-established, message will disappear.

021 Error chain inverter

The frequency inverter of the sorting chain gives an error. Switch off the inverter with the emergency stop to reset the inverter.

022 Error chain prox.switch

The proximity switch on the sorting chain didn't detect a catch for too long. This can be caused by a jammed chain.

023 Thermal protection chain

The thermal protection of the sorting chain is active. This can be caused by a jammed chain. Error can be reset by unlocking the protection in the cabinet.

026 Full gate thermal off

One of the thermal protections of the full clamp gates is active. Gate can be jammed. Unlock the thermal protection in the electrical cabinet.

027 Empty gate thermal off

One of the thermal protections of the empty clamp gates is active. Gate can be jammed. Unlock the thermal protection in the electrical cabinet.

031 Time-out empty gate

The empty clamp gate wasn't back in home position in the estimated time. This can be caused by a jammed clamp.

032 Time-out full gate 1

The full clamp gate of lane 1 wasn't back in the home position in the estimated time. This can be caused by a jammed clamp.

033 Time-out full gate 2

The full clamp gate of lane 2 wasn't back in the home position in the estimated time. This can be caused by a jammed clamp.

034 Time-out full gate 3

The full clamp gate of lane 3 wasn't back in the home position in the estimated time. This can be caused by a jammed clamp.

035 Time-out full gate 4

The full clamp gate of lane 4 wasn't back in the home position in the estimated time. This can be caused by a jammed clamp.

036 Full clamp jam lane 1

The chain has sent clamps to lane 1, but they were not detected in lane 1. This can be caused by a jam.

037 Full clamp jam lane 2

The chain has sent clamps to lane 2, but they were not detected in lane 2. This can be caused by a jam.

038 Full clamp jam lane 3

The chain has sent clamps to lane 3, but they were not detected in lane 3. This can be caused by a jam.

039 Full clamp jam lane 4

The chain has sent clamps to lane 4, but they were not detected in lane 4. This can be caused by a jam.

041 Odd clamps empty gate

An odd number of clamps has been detected in the empty clamp gate. One sensor is covered, the other one is not.

042 Empty clamps jammed

The program wanted to change distribution of empty clamps to another station, but the jam photocell is covered.

043 Odd clamps full gate 1

An odd number of clamps has been detected in the full clamp gate of lane 1. One sensor is covered, the other one is not.

044 Odd clamps full gate 2

An odd number of clamps has been detected in the full clamp gate of lane 2. One sensor is covered, the other one is not.

045 Odd clamps full gate 3

An odd number of clamps has been detected in the full clamp gate of lane 3. One sensor is covered, the other one is not.

046 Odd clamps full gate 4

An odd number of clamps has been detected in the full clamp gate of lane 4. One sensor is covered, the other one is not.

051 Lane full clamp full

The next pair of full clamps has to go to a full lane. So, the chain is stopped and waits until it can restart.

055 Battery almost empty

The battery in the PLC is almost empty. It has to be replaced every year. Replace the battery as soon as possible to prevent loss of data.

056 CPU temperature too high

The temperature of the PLC-processor is too high. Reason can be a broken fan or a too high environment temperature.

061 Error inverter Daniela 1

The frequency inverter of the chain of Daniela 1 gives an alarm. This can be caused by a jammed clamp.

062 Error inverter Daniela 2

The frequency inverter of the chain of Daniela 2 gives an alarm. This can be caused by a jammed clamp.

063 Error inverter Daniela 3

The frequency inverter of the chain of Daniela 3 gives an alarm. This can be caused by a jammed clamp.

064 Error inverter Daniela 4

The frequency inverter of the chain of Daniela 4 gives an alarm. This can be caused by a jammed clamp.

066 Error lift up Daniela 1

The clamp lift of Daniela 1 isn't in the upper position in time. This can be caused by a jammed clamp.

067 Error lift up Daniela 2

The clamp lift of Daniela 2 isn't in the upper position in time. This can be caused by a jammed clamp.

068 Error lift up Daniela 3

The clamp lift of Daniela 3 isn't in the upper position in time. This can be caused by a jammed clamp.

069 Error lift up Daniela 4

The clamp lift of Daniela 4 isn't in the upper position in time. This can be caused by a jammed clamp.

071 Error blocker Daniela 1

The lower blocker of Daniela 1 isn't closed in the estimated time (reedswitch not detected). This can be caused by a jammed clamp.

072 Error blocker Daniela 2

The lower blocker of Daniela 2 isn't closed in the estimated time (reedswitch not detected). This can be caused by a jammed clamp.

073 Error blocker Daniela 3

The lower blocker of Daniela 3 isn't closed in the estimated time (reedswitch not detected). This can be caused by a jammed clamp.

074 Error blocker Daniela 4

The lower blocker of Daniela 4 isn't closed in the estimated time (reedswitch not detected). This can be caused by a jammed clamp.

076 Error chain Daniela 1

The chain has been running, but the proximity switch did not see the chain running for too long. This means the chain can be jammed.

077 Error chain Daniela 2

The chain has been running, but the proximity switch did not see the chain running for too long. This means the chain can be jammed.

078 Error chain Daniela 3

The chain has been running, but the proximity switch did not see the chain running for too long. This means the chain can be jammed.

079 Error chain Daniela 4

The chain has been running, but the proximity switch did not see the chain running for too long. This means the chain can be jammed.

081 Daniela 1 fifo full

The fifo buffer with sorting codes of Daniela 1 is full. Therefore the station is blocked. When fifo is not full anymore, message will automatically reset.

082 Daniela 2 fifo full

The fifo buffer with sorting codes of Daniela 2 is full. Therefore the station is blocked. When fifo is not full anymore, message will automatically reset.

083 Daniela 3 fifo full

The fifo buffer with sorting codes of Daniela 3 is full. Therefore the station is blocked. When fifo is not full anymore, message will automatically reset.

084 Daniela 4 fifo full

The fifo buffer with sorting codes of Daniela 4 is full. Therefore the station is blocked. When fifo is not full anymore, message will automatically reset.

086 Daniela 1 code no clamps

In the fifo memory is a code, but there are no clamps present. Check if clamps are stuck. If not, monitor and reset the fifo code in the installation and test menu.

087 Daniela 2 code no clamps

In the fifo memory is a code, but there are no clamps present. Check if clamps are stuck. If not, monitor and reset the fifo code in the installation and test menu.

088 Daniela 3 code no clamps

In the fifo memory is a code, but there are no clamps present. Check if clamps are stuck. If not, monitor and reset the fifo code in the installation and test menu.

089 Daniela 4 code no clamps

In the fifo memory is a code, but there are no clamps present. Check if clamps are stuck. If not, monitor and reset the fifo code in the installation and test menu.

091 Daniela 1 clamps without code

The last pair of clamps pushed in by the chain gate of Daniela 1, didn't have a fifo code because the fifo memory was empty.

092 Daniela 2 clamps without code

The last pair of clamps pushed in by the chain gate of Daniela 2, didn't have a fifo code because the fifo memory was empty.

093 Daniela 3 clamps without code

The last pair of clamps pushed in by the chain gate of Daniela 3, didn't have a fifo code because the fifo memory was empty.

094 Daniela 4 clamps without code

The last pair of clamps pushed in by the chain gate of Daniela 4, didn't have a fifo code because the fifo memory was empty.

096 Daniela 1 buffer full

The full clamps buffer behind Daniela 1 is full, therefore the Daniela is blocked. When the buffer isn't full anymore, blocking will be reset.

097 Daniela 2 buffer full

The full clamps buffer behind Daniela 2 is full, therefore the Daniela is blocked. When the buffer isn't full anymore, blocking will be reset.

098 Daniela 3 buffer full

The full clamps buffer behind Daniela 3 is full, therefore the Daniela is blocked. When the buffer isn't full anymore, blocking will be reset.

099 Daniela 4 buffer full

The full clamps buffer behind Daniela 4 is full, therefore the Daniela is blocked. When the buffer isn't full anymore, blocking will be reset.

101 No empty clamps Daniela 1

The empty clamp buffer before Daniela 1 doesn't have empty clamps. Daniela cannot run.

102 No empty clamps Daniela 2

The empty clamp buffer before Daniela 2 doesn't have empty clamps. Daniela cannot run.

103 No empty clamps Daniela 3

The empty clamp buffer before Daniela 3 doesn't have empty clamps. Daniela cannot run.

104 No empty clamps Daniela 4

The empty clamp buffer before Daniela 4 doesn't have empty clamps. Daniela cannot run.

106 Daniela 1 suppressed

The Daniela is blocked and not allowed to feed new clamps. When suppression is over, the station will restart.

107 Daniela 2 suppressed

The Daniela is blocked and not allowed to feed new clamps. When suppression is over, the station will restart.

108 Daniela 3 suppressed

The Daniela is blocked and not allowed to feed new clamps. When suppression is over, the station will restart.

109 Daniela 4 suppressed

The Daniela is blocked and not allowed to feed new clamps. When suppression is over, the station will restart.

133 Waiting for start

The system is waiting for a start signal to be given by the startbutton on this touchscreen.

135 Operating

The system is running, no alarms or other notifications.