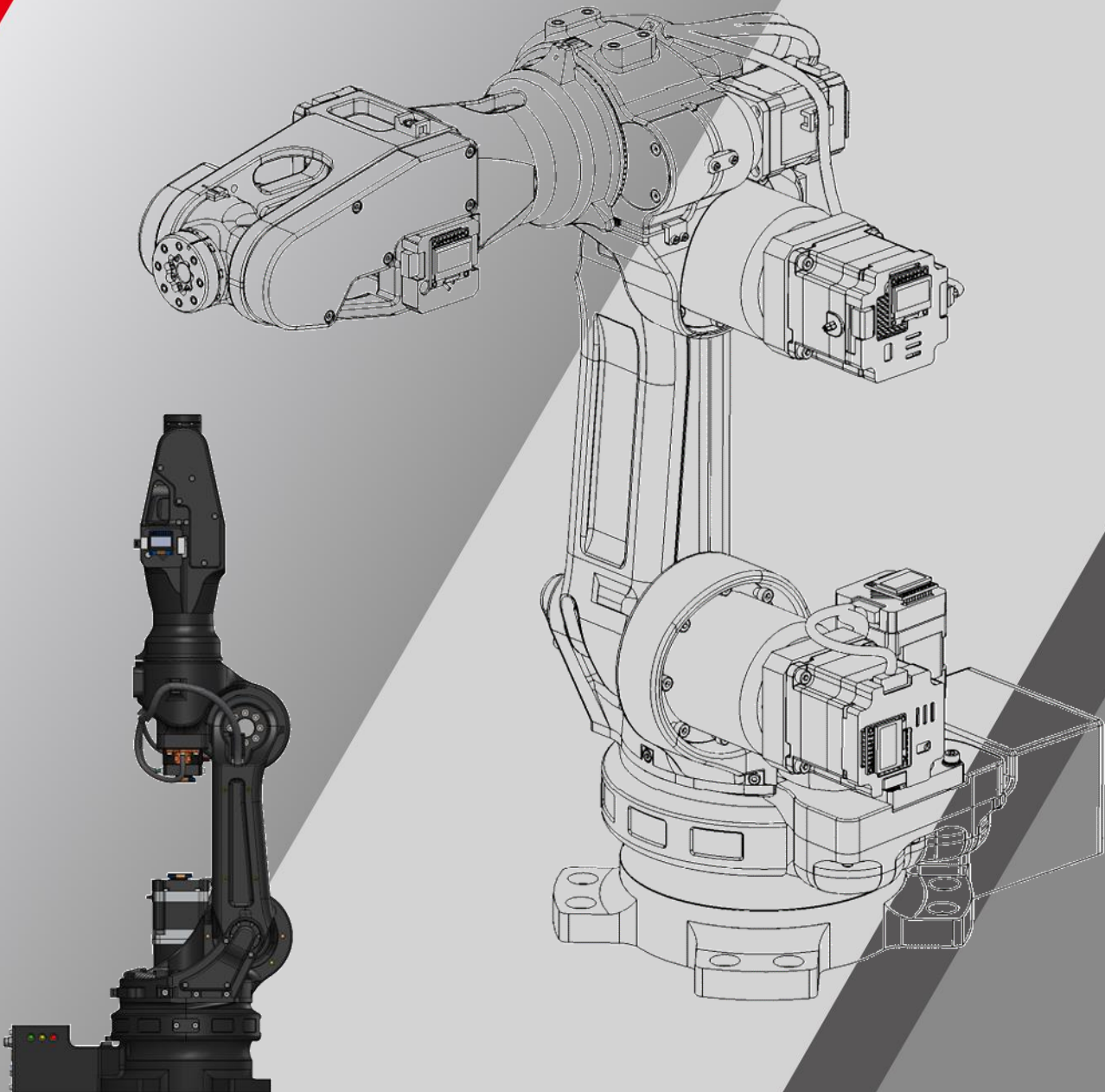


ASTORINO

TP Firmware Revision History



Preamble

This document shows the revision history of the ASTORINO firmware. It starts with firmware 3.8.3

For further questions, contact Kawasaki Robotics support.

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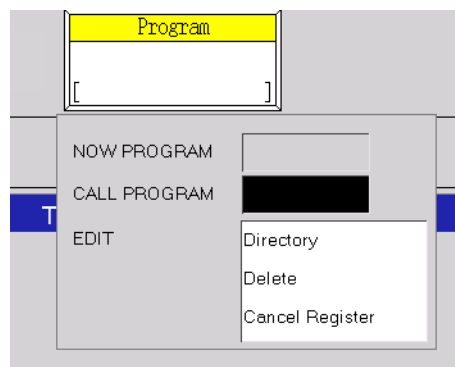
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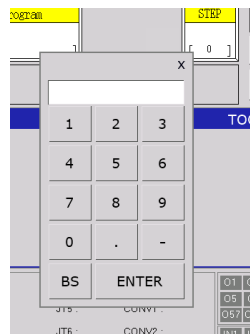
1 Firmware 1.0.3 and Screen firmware 1.3

Updates:

- Changed layout in Aux window
 - Input/Output Signal - changed
 - Motion Limits - added
 - Terminal
 - Points
 - Basic Settings - changed
 - Tool/Work Settings - changed
 - Auto Tool Coordinate Register - changed
 - Auto Work Coordinate Register - added
 - System Settings - added
 - About
- Changed the way of selecting the program – added new window



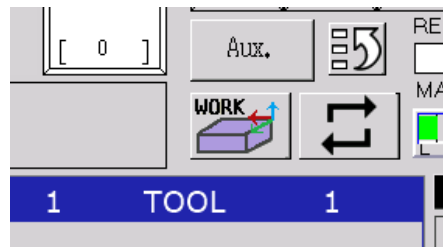
- Added step selection functionality – now pressing on STEP control will open a step selection keyboard. After typing line number editor jumps to selected line



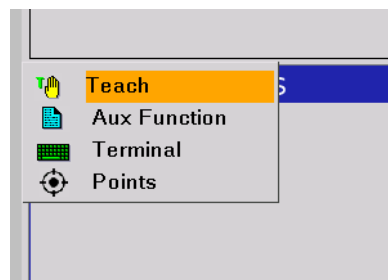
- Added functionality of GO button, now it also runs selected program line in TeachMode when Cycle is OFF – program flow commands like FOR or IF will cause error when run with GO button (AS language parser limitations). Releasing GO button will decelerate the robot.

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- added functionality to turn on/off button bip, use command in the TP terminal ZSOUND 1 to turn ON bip, ZSOUND 0 to turn off bip sound,
- added SKIP WAIT button to skip program blocking commands like SWAIT
- POS MOD – now changes the position data of currently selected line
- POS MOD + ALT – opens a line text editor and user can change currently selected line
- CC - opens program selection menu
- CC + ALT – opens text editor to type in program name
- Added JOINT Range motion limits setting option
- Added Power Off position setting option
- Added WORK as Teach motion coordinate system



- Added WORK setting option and WORK Wizard
- Added Ethernet Settings option
- Added Conveyor setting option,
- Added Collision Detection setting option,
- Added Handling clamp setting option,
- Changed MENU button behaviour, now it open SUBMENU



- Changed DEL button behaviour, now ALT+DEL deletes currently selected line,
- Now long pressing ARROWS will automatically navigate,
- Changed REC and INS functionality – now SPEED parameter is not added automatically
- Added SPEED function in BLOCK Teaching
- Added 9894 button combination to enter Lv3 access level on TP
- Now when teaching points on POINTS page message window will appear if currently selected point for teaching already exist. Warning window with user confirmation for teaching already saved point (overwrite protection)

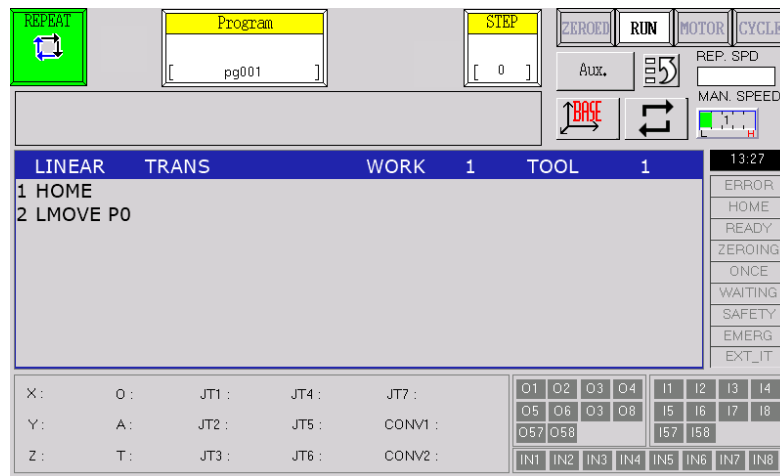
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Bug fixes:

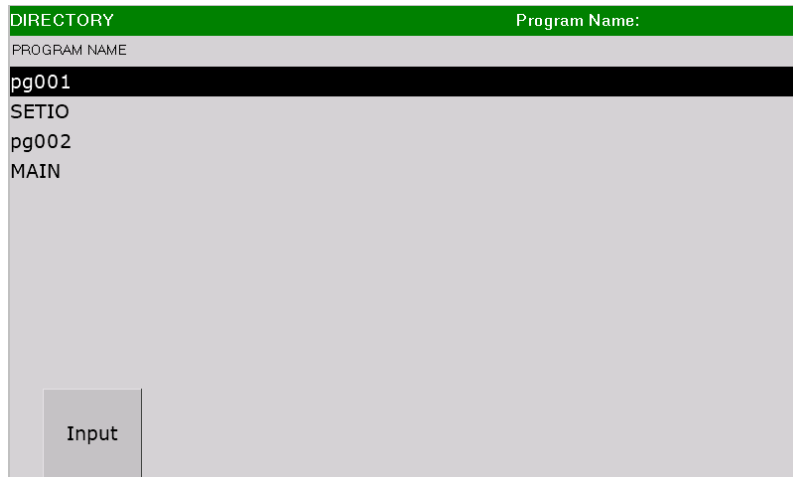
- Fixed 7th axis teach motion,
- Fixed situations when releasing the Teach motion JOG buttons sometimes does not stop the robot,
- Fixed many stability problems
- Fixed OAT calculations in TOOL pages

Windows overview:

- Teach Page:



- Program selection window



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- Aux Page:

Aux. 13:30

1. Input/Output Signal
2. Motion Limits
3. Terminal
4. Points
5. Basic Settings
6. Tool/Work Settings
7. Auto Tool Coordinate Register
8. Auto Work Coordinate Register
9. Advanced Settings
10. System Settings
11. About

- Input/Output Signal Page

1. Input/Output Signal 13:30

INPUTS								OUTPUTS							
I1	I2	I3	I4	I5	I6	I7	I8	O1	O2	O3	O4	O5	O6	O7	O8
I9	I10	I11	I12	I13	I14	I15	I16	O9	O10	O11	O12	O13	O14	O15	O16
I17	I18	I19	I20	I21	I22	I23	I24	O17	O18	O19	O20	O21	O22	O23	O24
I25	I26	I27	I28	I29	I30	I31	I32	O25	O26	O27	O28	O29	O30	O31	O32
I33	I34	I35	I36	I37	I38	I39	I40	O33	O34	O35	O36	O37	O38	O39	O40
I41	I42	I43	I44	I45	I46	I47	I48	O41	O42	O43	O44	O45	O46	O47	O48
I49	I50	I51	I52	I53	I54	I55	I56	O49	O50	O51	O52	O53	O54	O55	O56
I57	I58							O57	O58	MODBUS CONNECTED					

INTERNAL

IN1	IN2	IN3	IN4	IN5	IN6	IN7	IN8
IN9	IN10	IN11	IN12	IN13	IN14	IN15	IN16

- Motion Limits Page

2. Motion Limits 13:31

Moving Area XYZ Limits			Joint Range	
LOWER	X	0.0 mm	JT 1	0 To 0 deg
	Y	0.0 mm	JT 2	0 To 0 deg
	Z	0.0 mm	JT 3	0 To 0 deg
UPPER	X	0.0 mm	JT 4	0 To 0 deg
	Y	0.0 mm	JT 5	0 To 0 deg
	Z	0.0 mm	JT 6	0 To 0 deg
			JT 7	0 To 0 mm

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- Basic Setting Page

The screenshot shows the '5. Basic Settings' screen. At the top, there are buttons for 'REPEAT', 'Program', 'STEP', 'ZEROED', 'RUN', 'MOTOR', and 'CYCLE'. Below these are 'Aux.' and 'Lv2' buttons, and a 'MAN. SPEED' control. The main area is divided into two panels: 'Home Position' and 'Settings'. The 'Home Position' panel has a 'Set Opt.' section with 'Curr. Pose' selected and 'Manual' unselected. It lists joints JT 1 through JT 7 with their respective home positions in degrees or millimeters. The 'Settings' panel shows 'SPEED 1' set to 1.0 mm and a 'Power off Position' section for joints JT 1 through JT 7.

Home Position	
Set Opt.	<input checked="" type="checkbox"/> Curr. Pose <input type="checkbox"/> Manual
JT 1	0.0 deg
JT 2	0.0 deg
JT 3	0.0 deg
JT 4	0.0 deg
JT 5	0.0 deg
JT 6	0.0 deg
JT 7	0.0 mm

Settings	
SPEED 1	1.0 mm
Power off Position	
JT 1	0.0 deg
JT 2	0.0 deg
JT 3	0.0 deg
JT 4	0.0 deg
JT 5	0.0 deg
JT 6	0.0 deg
JT 7	0.0 mm

- Tool/Work Settings Page

The screenshot shows the '6. Tool/Work Settings' screen. It features the same top navigation buttons as the previous screen. The main area is split into 'Tool Cord' and 'Work Cord' sections. The 'Tool Cord' section shows 'TOOL: 1' and lists X, Y, Z, O, A, and T coordinates. The 'Work Cord' section shows 'WORK: 1' and lists O, A, and T coordinates.

Tool Cord	
TOOL:	1
X	0.00 mm
Y	0.00 mm
Z	0.00 mm
O	0.00 deg
A	0.00 deg
T	0.00 deg

Work Cord	
WORK:	1
O	0.00 deg
A	0.00 deg
T	0.00 deg

- Auto Tool Coordinate Register

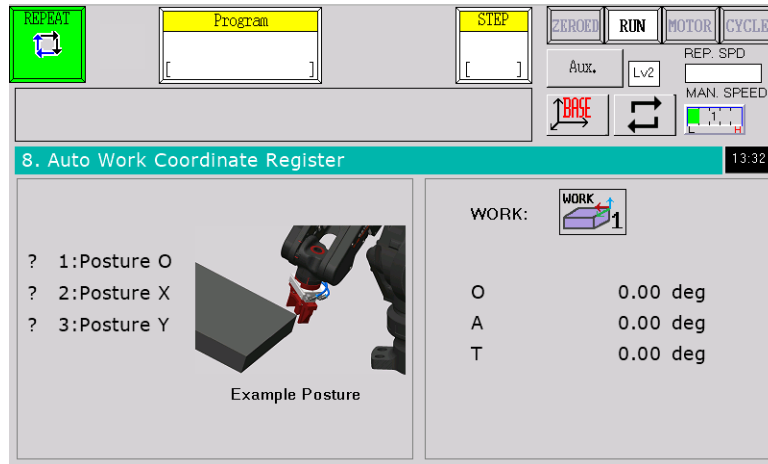
The screenshot shows the '7. Auto Tool Coordinate Register' screen. It includes the top navigation buttons. The main area is divided into 'Wizard' and 'Current Settings' panels. The 'Wizard' panel has a selection for 'Only X, Y, Z' (checked) and 'X, Y, Z, O, A, T' (unchecked), followed by four posture options (A1-A4). The 'Current Settings' panel shows 'TOOL: 1' and lists X, Y, Z, O, A, and T coordinates.

Wizard	
<input checked="" type="checkbox"/> Only X, Y, Z	<input type="checkbox"/> X, Y, Z, O, A, T
? 1:Posture A1	
? 2:Posture A2	
? 3:Posture A3	
? 4:Posture A4	

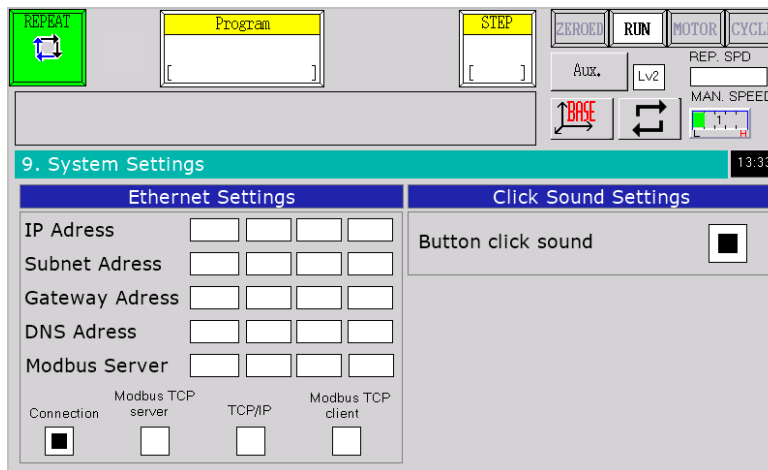
Current Settings	
TOOL:	1
X	0.00 mm
Y	0.00 mm
Z	0.00 mm
O	0.00 deg
A	0.00 deg
T	0.00 deg

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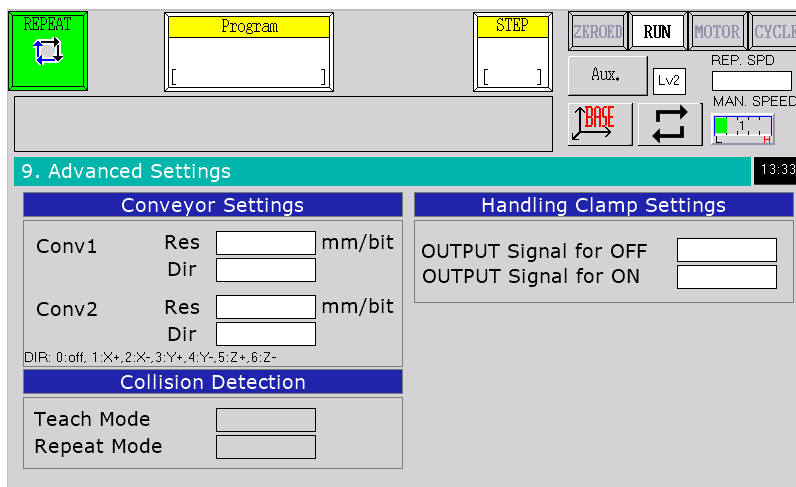
- Auto Work Coordinate Register



- System Settings

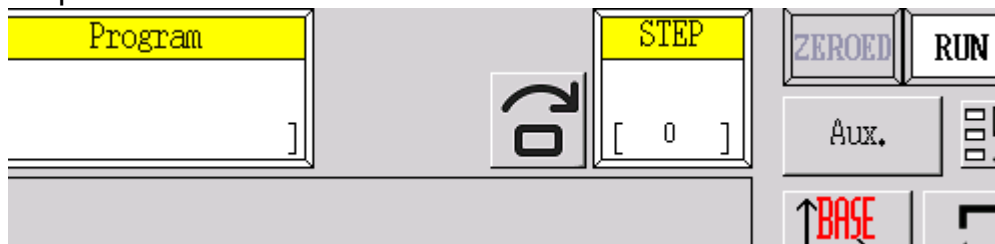


- Advanced Settings

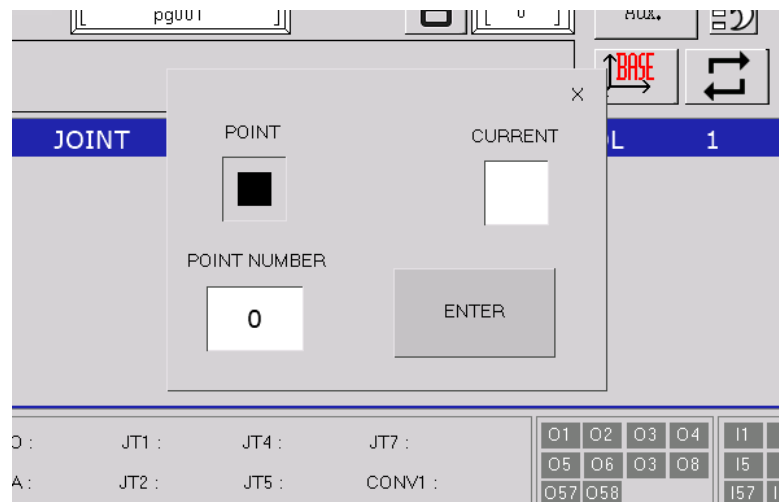


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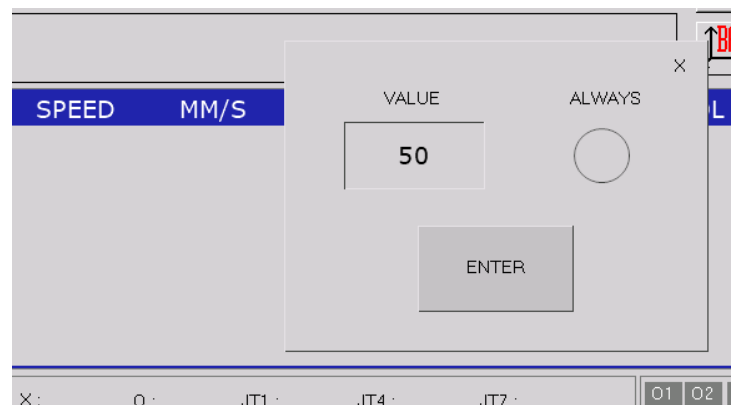
- Skip wait button



- Motion instruction teaching window

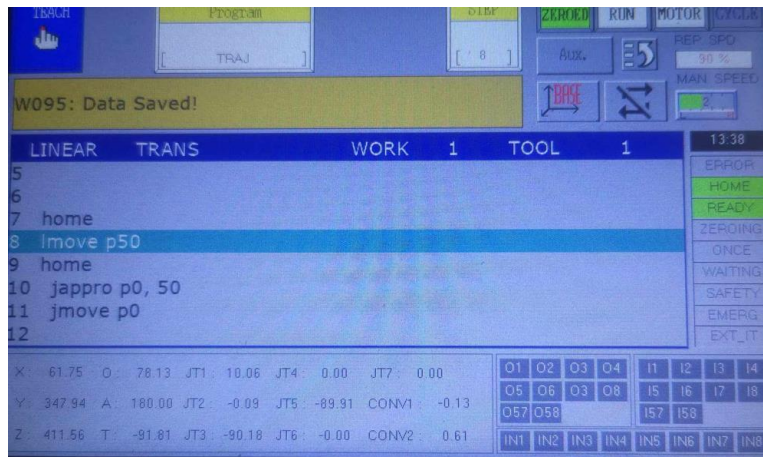
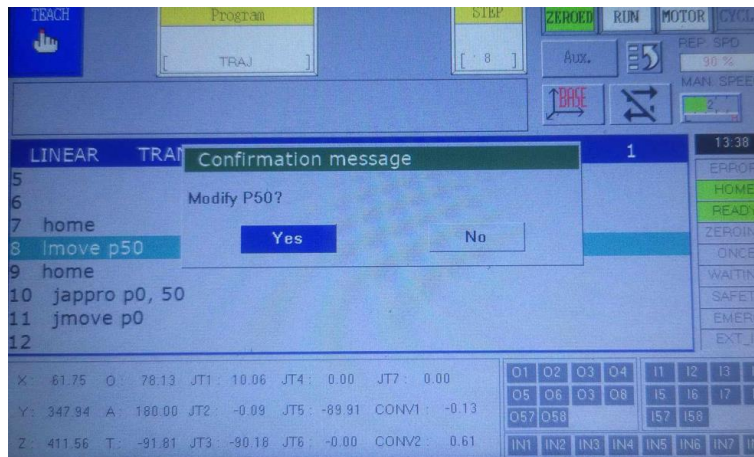
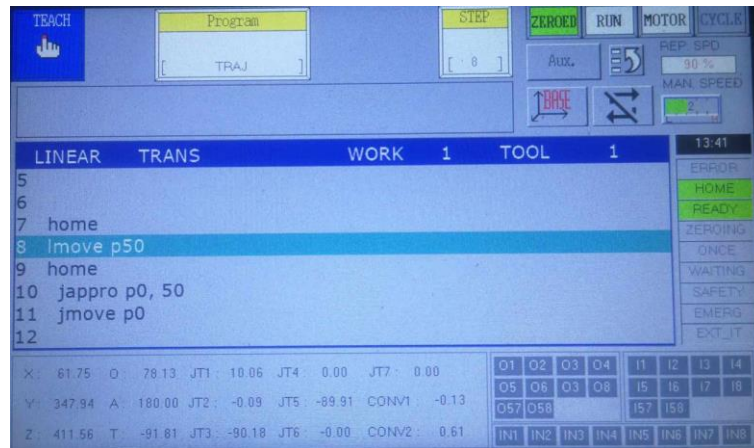


- Speed instruction teaching window



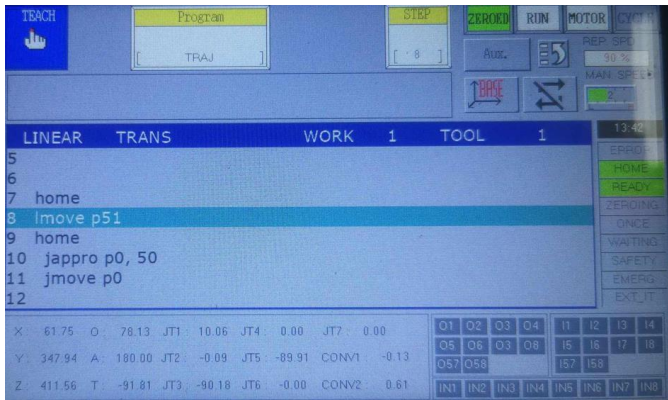
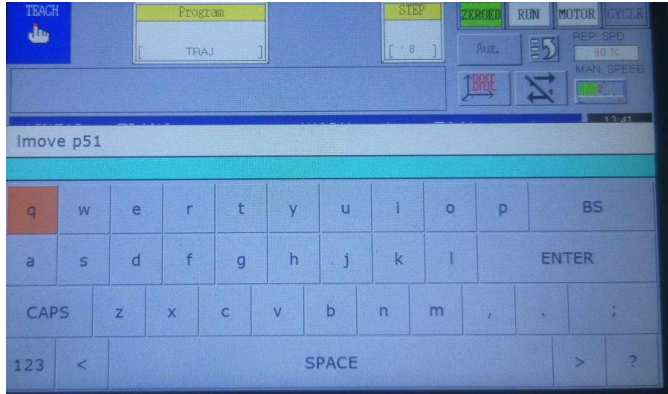
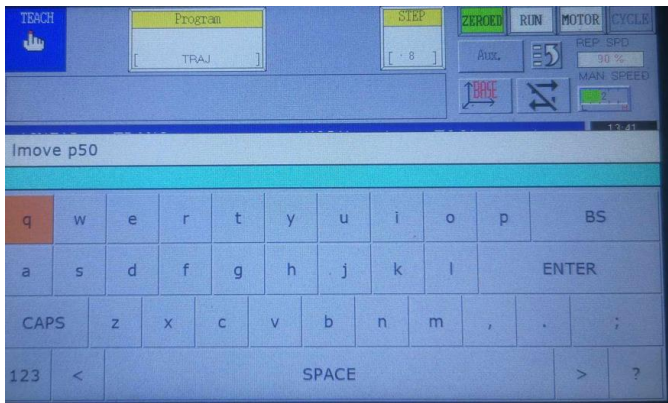
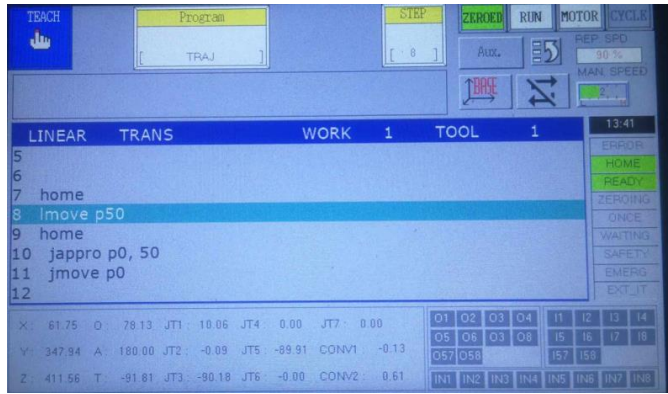
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POS MOD



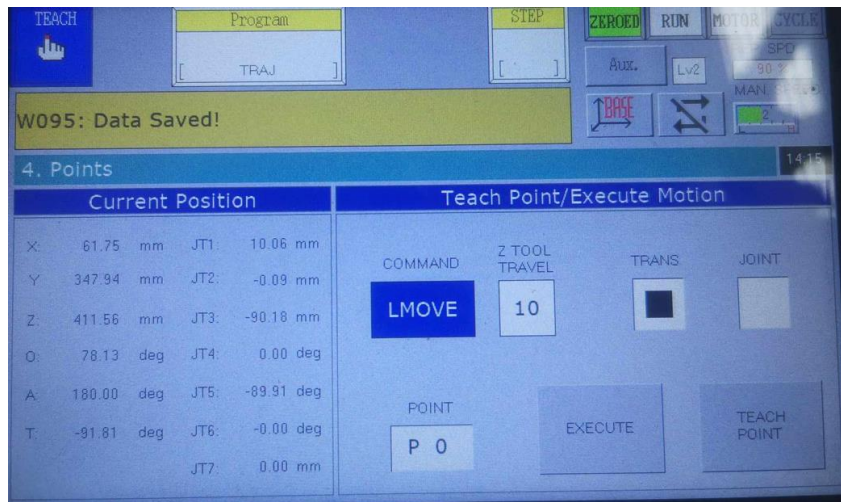
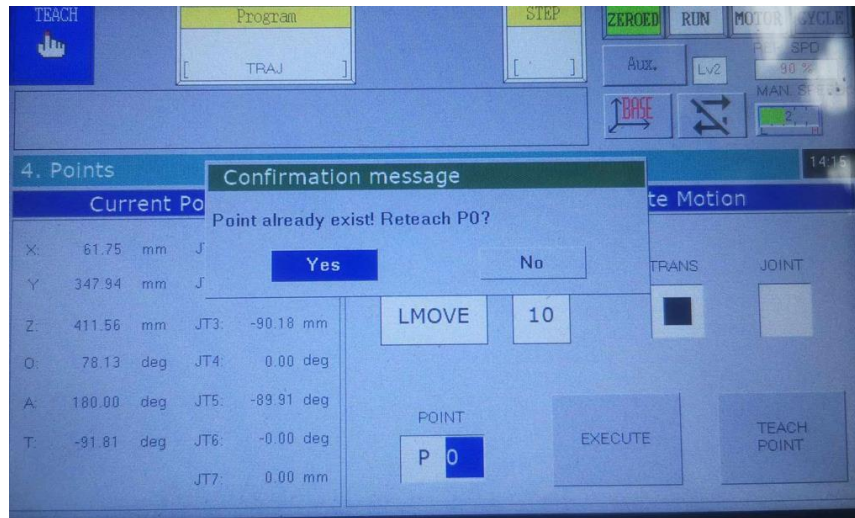
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POS MOD + ALT



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POINTS Page



2 Firmware 1.0.4

Updates:

- Added possibility to run a program from currently selected line
- TP is compatible with robot firmware version 3.8.4

Bug fixes:

- Minor stability fixes

3 Firmware 1.0.5

Updates:

- Added EXT. User and RTC icons
- TP is compatible with robot firmware version 3.8.5

Bug fixes:

- Updated communication protocol for more stability

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Kawasaki Robot
ASTORINO
Firmware Revision History

2024-09: 3rd Edition

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