





# alumotion

UNIVERSAL ROBOTS

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#### What's in the box



- Nr.1 YouRing
- Nr.1 Connecting tool cable
- Nr.1 USB bluetooth key
- Nr.1 USB Alumotion key (manual and software)
- Nr. 4 Screws (TCEIR M6 x 50mm)
- Nr. 8 Flat Washers



YouRing Set

Note: Screws are suitable for Robotiq 2F185/140 grippers. Flat washers, two for any screw, are just for testing YouRing in stand alone mode.

### Specifications



Diameter / Height	
Weight	
Peak current request	400 mA
[buzzer	100 mA]
[all white led on	



YouRing view, with a tool mounted

#### Description

The YouRing is a tool for enhancing the efficacy and collaboration between the user and the robot, ensures safety and free of movement.

The robot with the YouRing can show the direction of the movement, by tracing the positions with the led.

The user can benefit of a new freedrive button, directly on the tool flange of the robot and setup specific colors in order to trace specific behaviors, during the execution of a program, or also to signal a particular safety mode of the robot.

With the installation of the YouRing, new Polyscope commands are available to the user: YouRing instruction to setup lights and buzzer and Wait YouRing button instruction to wait when the user presses one or more of the YouRing buttons.









1. Physical mounting of the YouRing on the tool flange

2. Connect the cable between the YouRing and the tool flange



Note: Be careful to the guide on the jack for a correct mounting.

**3.** Installation of the URcap in the Setup of the robot (software provided in the Alumotion USB key included in the box)

	Setup Robot	0
Initialize Robot	URCaps Setup Active URCaps:	
Language and Units	♥ URing	
Update Robot		
Set Password	URCap Information:	
Calibrate Screen	URCap name: URing Version: 0.9.0.BETA Developer: Alumotion	
Setup Network	Contact Info: Via F.iii Cervi 3, 20083 Cernusco sui Naviglio, Italy Description: URing device manager Copyright: Copyright (C) 2009-2016 Alumotion. All Rights Reserved	
Set Time	License Type: Sample license License: Copyright (c) 2016, Alumotion All rights reserved.	
URCaps Setup	Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are	•
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URcap installation

**4.** Insert the USB bluetooth key in the control box The key must NOT have been previously paired



USB Bluetooth Key connected

🖉 🖉 File		17:04:31	C499 🕜
Program Installation	Move I/O Log		
Robot MODBUS client			
Configurable Input	Digital Input	Tool Input	
S-Guard 🥥 🔇 4	0 🥥 🕲 4		
S-Guard 🥥 🔇 5	1005	Digital	
2 🕥 🕥 6	pippo_1 🥥 🙆 6	0	
3 3 3 7	3007	01	
Analog input           analog_in[0]           0.00 ∨           0∨	Voltage  Vol	analog_in[2] 0.04 ∨ analog_in[3] 0.04 ∨	Voltage 👻 Voltage 👻
Configurable Output	Digital Output	Tool Output	
0 (* 4 1 (* 5 2 (* 6 3 (* 7	0 () () ventosa 1 () () 5 pippo_2 () () 6 3 () () 7	Digital O O 1	
Analog output analog_out[0] 4mA 20mA	Current V 4mA 20mA	Voltage	O28 mA
<ul> <li>Simulation</li> <li>Real Robot</li> </ul>			

5. Check the 24V on the tool voltage in the I/O tab and save the installation

I/O check (tool output)

**6.** The YouRing must be paired with the USB key inserted in the UR control box: press both the buttons (blue and black) on the YouRing to start the automatic procedure of pairing

🜒 File		Gri	pper					09:30:00		сссс	$\bigcirc$
Program Installat	ion	Move I/O Log									
Mounting	<b>^</b>	🍪 YouRing:	Sto	pped			Ena	ble		Disable	
I/O Setup											
🛜 Safety		Driver infos: Bluetooth infos:	N/A N/A								
Variables		Ring MAC:	N/A	Ring BT_K	YL	evel:	N/A	Ring BT Le	vel:	N/A	
MODBUS client		Custom button (blue)	ſ	None			•				
Features			L								
- Base - Tool	_	Safety Modes	(	Color		Buzzer		Blink			
X SCATTO_2		REDUCED		None	•	Off	-	None	-		
Conveyor Tracking		PROTECTIVE_STOP	[	None	•	Off	-	None	-		
EtherNet/IP		RECOVERY	[	None	•	Off	-	None	-		
PROFINET		SAFEGUARD_STOP		None	•	Off	•	None	-		
Camera		Unpair Device									
Gripper											
YouRing	•										

Pairing procedure

7. Click enable in the YouRing section

🜒 File		d Grip	pper					09:30:00		cccc	$\bigcirc$
Program Installat	ion	Move I/O Log									
Mounting	•	🍪 YouRing: 🤅	Sto	pped			Ena	ible		Disable	
I/O Setup 🛜 Safety Variables		Driver infos: Bluetooth infos: Ring MAC:	N/A N/A N/A	Ring BT_KI	EY I	_evel:	N/A	Ring BT Le	evel:	N/A	
MODBUS client Features		Custom button (blue)		None			•				
— Base — Tool	_	Safety Modes		Color		Buzzer		Blink			
X SCATTO X SCATTO_2		REDUCED		None	•	Off	-	None	-		
Conveyor Tracking		PROTECTIVE_STOP		None	•	Off	-	None	-		
EtherNet/IP		RECOVERY		None	•	Off	-	None	-		
PROFINET		SAFEGUARD_STOP		None	•	Off	•	None	•		
Camera		Unpair Device									
Gripper											
YouRing	•										

Installation of the YouRing

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Program Installat	ion	Move I/O Lo	9								
Mounting	•	🌒 YouRing	: Ru	nning			Ena	able		Disable	
I/O Setup											
🖓 Safety		Driver infos: Bluetooth infos:	Ok, no e Paired a	errors to re and connec	port ted. N	o errors to	repor	t			
Variables		Ring MAC:	207.20.	42.87.11.0	Ring	BT_KEY L	evel:	185 Rin	ng BT Le	evel: 194	
MODBUS client		Custom button (blue	.)	None			-				
Features											
- Tool	=	Safety Modes		Color		Buzzer		Blink			
X SCATTO X SCATTO_2		REDUCED		None	-	Off	-	None	-		
Conveyor Tracking		PROTECTIVE_STOP		None	-	Off	-	None	-		
EtherNet/IP		RECOVERY		None	-	Off	-	None	-		
PROFINET		SAFEGUARD_STOP		None	-	Off	-	None	-		
Camera		Unpair Devic	e	]							
Gripper											
YouRing	•										

YouRing up and running

Note:

Once the installation is complete and saved, when the user starts the robot, a 'bip' sound is earable and the YouRing is ready to work.

#### Configuration

When the YouRing is not activated it's possible to:

1. Configure the blue button, wich corresponds to the custom button, in order to activate a script in the robot. Please remember to save the installation everytime a script is modified.

Once the YouRing has been activated, the pressing of the blue button will activate the script.

<u>Attention</u>: this functionality is available with the robot in stop program, not in running program.

**2.** Configure light, sound and blinking for the safety modes indicated in the figure. E.g. when the robot goes in protective stop mode, the YouRing starts blinking yellow.

🜒 File		- Gr	ripper					09:32:44	cccc 🕜
Program Installat	ion	Move I/O Log	]	_					
Mounting	•	🍪 YouRing:	Sto	pped			En	able	Disable
I/O Setup									
🛜 Safety		Driver infos: Bluetooth infos:	N/A N/A						
Variables		Ring MAC:	N/A	Ring BT_	KEY	Level:	N/A	Ring BT Level:	N/A
MODBUS client		Custom button (blue)		None			-		
Features				L					
- Base - Tool	=	Safety Modes		Color		Buzzer		Blink	
X SCATTO 2		REDUCED		Blue	-	Off	-	None 🔻	
– Conveyor Tracking		PROTECTIVE_STOP		None	-	Off	•	None 🔻	
EtherNet/IP		RECOVERY		None		Off	-	None 🗸	
PROFILET		SAFEGUARD_STOP		Green		Off	•	None 🗸	
PROFINET				Blue					
Camera		Unpair Device		Yellow					
Gripper				Orange					
YouRing				Pink Brown					
< III >	•	-			-				

Configuration of the custom button and safety modes settings

#### Configuration

🜒 File		G	ripper					09:32:1	6	cccc	0
Program Installat	ion	Move I/O Log									
Mounting	•	🔮 YouRing:	Sto	pped			En	able		Disable	
I/O Setup											
🔁 Safety		Driver infos: Bluetooth infos:	N/A N/A								
Variables		Ring MAC:	N/A	Ring BT_K	ΈΥΙ	_evel:	N/A	Ring BT L	evel:	N/A	
MODBUS client		Custom button (blue)		None			•				
Features				None							
- Base - Tool - ¥ SCATTO	=	Safety Modes		mecspe_201 demo.script	l 7.s	cript		Blink			
X SCATTO_2		REDUCED		mecspe-2.st	cript			None	-		
Conveyor Tracking		PROTECTIVE_STOP		None	•	Off	-	None	-		
EtherNet/IP		RECOVERY		None	•	Off	-	None	-		
PROFINET		SAFEGUARD_STOP		None	-	Off	-	None	-		
Camera		Unpair Device		]							
Gripper											
YouRing	•										

Setup if the user scripts for the custom button



View of the custom button

### Configuration



The black button corresponds to the YouRing freedrive

View of the freedrive button



Freedrive activated

<u> </u> File		09:39:07 CCCC (	?
Program Installation	Move I/O Log		
<pre> <unnamed></unnamed></pre>	Command Graphics Structure Variables		
▼ Robot Program 	Program Structure Editor		
	Set placement of node After selected		
	Basic Advanced Wizards URCaps		
	Wait YouRing Button	YouRing	
	Edit		
	Move Copy Past	e Suppress	
<b>♀</b> ♠ <b></b> ◄►	Move Cut Delet	e	
Simulation Real Robot	↓ ► ► ■ Speed	Previous Next 🛉	

Urcaps section with the two new instructions



Command view of the YouRing button

In the Led Setup the user can manage the leds on the tool, by selecting one of the options: a single or more led, a moving led, rainbow, or the motion tracker.

The motion tracker let the user see where the tool flange of the robot is moving, by showing leds in the direction of the movement, with the color and behavior chosen.

In the right part it's possible to choose the flash frequency, speed of the rotation and the trail duration of the leds.

In the ring section it's possible to choose manually which leds has to activate or not.

In the lower section there is the color choose palette.

Finally in the lower left section it's possible to change the rotation wise and the duration of the lights, which can be turned off after a defined time.

The user can test the settings before clicking "back" to return to the programming interface.



Led settings

In the buzzer tab it's possible to activate a sound from the internal buzzer of the YouRing, by the selection of pitch, volume, frequency and duration.

₫ 🖸	DialogDemo	$\odot$ $\otimes$ $\otimes$
Led Buzzer		
Buzzer Setup	Beep Pitch	
Off Off		
🖉 On	Low Medium	High
	Beep Volume	
	Low Medium	High
<b>~</b> "	Beep Frequency	
	Low Medium	High
Back	Beep Duration	
Test Buzzer	Low Medium	High
Test it!		

Buzzer settings

#### Wait YouRing Button instruction

With the Wait YouRing button it's possible to pause the execution of the program untill the user presses the blue, black or both the buttons on the YouRing.



Command view of the Wait YouRing Button instruction



With two YouRing and two USB bluetooth key, it's important to pair one YouRing at a time, in order to be sure to pair the correct device with its USB key.

Once two couple of YouRing bluetooth USB key are paired separately, it's possibile to use them independently: every key searches its YouRing.

It's possible to unpair a couple of YouRing - USB bluetooth key by clicking the unpair button in the Installation section, then the key is again available to be paired with a new YouRing.

The second connector on the YouRing is a pass-through connector, which gives power depending on the actual power consumption of the YouRing; on the peak (see the specifications) are available 200 mA (600 mA of UR connector - 400 mA of the YouRing).

For any further information, please contact: youring-support@alumotion.eu





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