

Komunikacja – przykład

Cobot spawalniczy ABB z kontrolerem Omnicore, korzystający z protokołu EthernetIP, spawarka TPS 400/i wyposażona w interfejs **RI FB/Inside Ethernet**

 Ustawienia adresu IP, maski sieci i bramki za pomocą aplikacji WEB Smart Manager (zakładka Interface). Powyższe wartości można wprowadzić również za pomocą DIP-switch na interfejsie – szczegóły w instrukcji obsługi interfejsu.

Kolejne etapy integracji systemu realizowane są na Teach Pendant robota lub jak w analizowanym przypadku, przez aplikacje robota – **ABB RobotStudio**.



 Podłączamy przewód sieciowy do gniazda MGMT kontrolera Omnicor. Do gniazda Ethernet Switch podłączony jest przewód służący do komunikacji z interfejsem spawarki.



3. Po otwarciu oprogramowania **RobotStudio** wybieramy menu File, zakładkę Online i następnie klikamy **One Click Connect**.

<mark>◙</mark> =	150	5000-100639 (192.168.125.1) - RobotStudio				
File Home Modeling	Simulation Controller RAPID Add-Ins					
🗐 Save	Connect to a robot controller	Recent Controllers				
⊥ Save As × Close	Connect to the management port of a controller.	15000-100639 on '192.168.125.1' Status: Available				
New	Connect to Controller Connect to a controller from the network, a virtual controller, or one from a	FroniusDemo on '4600-105975'				
Open		Last IP: 192.168.125.1				
Info	Create and use controller lists	SYS2600-121828 on '2600-121828' Status: Not found				
Print	Import controllers and connects to them.	SXS2600-121220 op '2600-121220'				
Share	Export Controllers Stores the currently connected controllers in a file.	Status: Not found Last IP: 192.168.125.1				
Online	Create and work with robot controllers	15000-100067 on '192.168.125.1' Status: Not found Last IP: 192.168.125.1				
Help 해수 Options	Modify Installation Modify controllers with RobotWare 7.	6720-100052 on '192.168.125.1' Status: Not found Last IP: 192.168.125.1				
() Exit	Create and modify systems with RobotWare version 5.	4400-102291 on '4400-102291' Status: Not found Last IP: 192.168.125.1				
		H 2600-121307 on '2600-121307' Status: Not found Last IP: 192.168.125.1				
		4400-100571M on '192.168.125.1' Status: Not found Last IP: 192.168.125.1				
		SYS2600-115006 on '2600-115006' Status: Not found Last IP: 192.168.125.1				

4. W oknie kontrolera wybieramy **I/O Engineering**

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File Home Modeling Simulation C	Controller RAPID Add-Ins	
Add Controller v Write Access Write Access) ticate Restart Backup → Ber PrexPendant → Controller Tools → → → → → → → → → →	imuts/Outputs imuts/Outputs/Outputs imuts/Outputs/Outputs imuts/Outputs/Outputs imuts/Outputs/Outputs imuts/Outputs/Outputs imuts/Outputs/Outputs imuts/Outputs/Outputs imuts/Outputs/Outputs imuts/Outputs/Outputs imuts/Outputs/Outputs imuts/Outputs/Outputs imuts/Outputs/Outputs imuts/Outputs/Outputs/Outputs imuts/Outputs/O
Controller $\overline{\mathbf{v}} \times$ * Expand all		I/O Engineering
ManagementPort		

5. Z listy rozwijanej po lewej stronie wybieramy EtherNetIP -> ioFronius TPSi

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File Home Modeling Simulation	Controller R/	APID Add-Ins I/O Eng	jineering						
Project Live Mode	I/O System In Levels ~ Devic Project	nport Add ABB I/O Safe ce Files > Device > Report	ety Request t Write Access Wr Live	Release rite Access Read Writ Contr	and Default Clu te ~ Layout Eng Program C	base I/O incering ontrols			
Project configuration 🗧	× Project: 1500	0-100639 Project ×							
I/O Projects	Signal Edito	rx							Ŧ
(E) 15000 100020 Decircle Controller 15000 (Q Search								
> E 15000-100639 Project - Controller: 15000-				7 (0) 1					-
	Na	ne	Assigned to Device	Type of Signal	Device Mapping	Signal Identification Label	Category	Access L	
Configuration]]	doFr1ArcOn	ioFronius IPSi1	Digital Output	0		Arc_1_R1	Detault	^
Conliguiation	1	U doFr1RobotReady	ioFronius IPSi1	Digital Output	1		Arc_1_R1	Default	
Q Search	4]	¶goFr1Mode	ioFroniusTPSi1	Group Output	2-6		Arc_1_R1	All	
-	1	∬ doFr1GasOn	ioFroniusTPSi1	Digital Output	8		Arc_1_R1	Default	
⊿ 之 I/O System	1		IOF ronius I PSI I	Digital Output	9		Arc_1_R1	Default	
Cross Connections		doFriFeedRetract	IOF ronius I PSI I	Digital Output	10		Arc_1_R1	Default	
			IOF ronius I PSI I	Digital Output	10		Arc_1_R1	Default	
	1	doFriTouchSense	ioFronius I PSi I	Digital Output	12		Arc_1_R1	Default	
Access Levels	1	doFr11rchBlowOut	IOF ronius I PSI I	Digital Output	13		Arc_1_R1	Default	
Device Trust Levels	1		IOF ronius I PSI I	Digital Output	16		Arc_1_R1	D ()	
Signal Safe Levels	1	doFr i SynchPulse	IOF ronius IPSI I	Digital Output	17		Arc_1_R1	Default	
Virtual Signals	1	doFr1WireBrake	ioFronius IPSi1	Digital Output	22		Arc_1_R1	Default	
Categories	1	doFr11orchXchang	IOF ronius IPSI I	Digital Output	23		Arc_1_R1	Default	
]	[doFr1leachMode	ioFronius IPSi1	Digital Output	25		Arc_1_R1		
- PROFINET]	[doFr1ExtOutput1	ioFronius IPSi1	Digital Output	56		Arc_1_R1	Default	
Controller	1	1 doFr1ExtOutput2	ioFronius IPSi1	Digital Output	5/		Arc_1_R1	Default	
4 📥 EtherNetIP	1	doFr1ExtOutput3	IOF ronius IPSI I	Digital Output	58		Arc_1_R1	Default	
EN_Internal_Device		doFr1ExtOutput4	IOF ronius I PSI I	Digital Output	59		Arc_1_R1	Default	
Scanner]	[doFr1ExtOutput5	ioFronius IPSi1	Digital Output	60		Arc_1_R1	Default	
ABB Scalable IO	1	1 doFr1ExtOutput6	ioFroniusTPSi1	Digital Output	61		Arc_1_R1	Default	
	1	1 doFr1ExtOutput/	IOFronius IPSI I	Digital Output	62		Arc_1_R1	Default	
			IOF ronius (PSI)	Digital Output	63		Arc_1_R1	Detault	
V Standard Connection	4		IOF TONIUS I PSIT	Group Output	64-79		Arc_1_R1	Detault	
ioFroniusTPSi1	A /	V aoFrIWESpeed	ioFronius I PSi I	Analog Output	80-95		Arc_1_R1	Default	
IO Commands	A /	V aurr I ArcLength	ioFronius (PSI)	Analog Output	30-111		Arc_1_R1	Default	
- Virtual	4 '		ioFraniusTPSH	Analog Output	100 140		Arc_1_R1	Default	
	/	 accrowingsparsed 	and commerce set	- ACCREMENT CONTAINT	1.1.2.000.040.0		Lane 1 Bill		

6. Wprowadzamy adres IP kontrolera robota

Properties Devi	ice Catalogue]			Ŧ		
E J Sear	Search						
 General 							
Name		ioFroniusTP	Si1				
Identification	Label	Fronius-FB-I	nside-EtherN	let/IP(TM) - Sta	andard Imag		
Connected to	Industrial Ne	EtherNetIP					
Vendor Name		Fronius Inter	national Gml	ъH			
Product Name	e	Fronius-FB-I	nside-EtherN	letIP(TM)			
Vendor ID		1332					
Product Code		769					
Device Type		12					
Major Revisio	n	0					
Minor Revisio	n	0					
Compatibility		○ Yes ● No					
 System 							
Trust Level		DefaultTrust	evel		~		
Simulated		○ Yes ● No					
State when S	ystem Startup	Activated			~		
A Network							
Address		(192 .	168	. 125 .	60 >		
 Ethernet IP 							
Output Assem	ibly	150					
Output Size (I	oytes)	40					
Output RPI (u	s)	10000					
Input Assemb	Input Assembly						
Input Size (by	tes)	40					
Input RPI (us)		10000					

UWAGA!!! Adres IP kontrolera robota oraz adres IP interfejsu spawarki muszą być z tej samej puli adresów, różnica w ostatniej liczbie/cyfrze.

7. W ostatnim kroku, wgrywamy plik EDS

0 G5×C×Q×∅× Ŧ		L/G	2			15000-100639 (19	92.168.125.1) - Rok	otStudi	io
File Home Modeling Simulation	Controller RAPID	Add-Ins I/O Engin	neering						
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Project Live I/O Signal Cross I, Project - Editor Connections	/O System Import Levels ~ Device Files Project Import Dev	Add ABB I/O Safet Device V Report rice Files	y Request F Write Access Wri ye	te Access Read Write Contro	and Default Clo e - Layout Engi oller Program Co	ose I/O ineering ontrols			
Project configuration $\[= \] \times$	Project:	SD Files							
I/O Projects	Signal To	o open GSD files, includ	e in Project.						
V 🖹 15000-100639 Project - Controller: 15000-10		DS Files							
< >		o open EDS files, include	e in Project.	Type of Signal	Device Mapping	Signal Identification Label	с	ategory	1
	dα	Fr1ArcOn	ioFroniusTPSi1	Digital Output	0		Are	c_1_R1	D
Configuration	da	Fr1RobotReady	ioFroniusTPSi1	Digital Output	1		Are	c_1_R1	D
O Search	⊿ ∭ ga	Fr1Mode	ioFroniusTPSi1	Group Output	2-6		Are	c_1_R1	AI
Q Sealch	da	Fr1GasOn	ioFroniusTPSi1	Digital Output	8		Are	c_1_R1	D
					-				12