

Your Global Automation Partner

Devicent Encoder Replacement 5860 to RM-89 Series

Manual

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Swapping Kuebler 5860 with RM-89 Device Net Resolver

The following section explains how to replace Kuebler 5860 DeviceNet encoder with RM-89 Resolver. The only common denominator for both devices is the position measurement, which is provided as 32-bit value back to PLC. Other features are or may be different such as:

- IO data size
- Supported parameters
- EDS files

The encoder's replacement and scanner's reconfiguration has to be done online in following steps:

1 Use RSNetworx Tool drop down menu to install RM-89 EDS file:



Follow instructions:

kwell Automation's EDS Wizard		×
Registration Electronic Data Sheet file(s) will be an Automation applications.	dded to your system for use in Rockwell	
Register a single file		
C Register a directory of EDS files	Look in subfolders	
Named:		

2 Go on-line and upload network content:



Kuebler 5860 encoder is in the scan-list and will be replaced at the same address with the RM-89:



3 Upload scan-list from the scanner:

ueneral Modu	le Scanlist Input Output ADR Summary
Scanner Con	figuration Applet
C Do so th Fo	o you want to upload the configuration from the device, updating th itware's configuration; or download the software's configuration to e device, updating the device? x more information, press F1
	Upload Download Cancel
Device Ident	Upload Download Cancel
Device Ident	Upload Download Cancel ity [Primary] Rockwell Automation/Allen-Bradley [1]
Device Ident Vendor: Type:	Upload Download Cancel ity [Primary] Rockwell Automation/Allen-Bradley [1] Communications Adapter [12]
Device Ident Vendor: Type: Device:	Upload Download Cancel ity [Primary] Rockwell Automation/Allen-Bradley [1] Communications Adapter [12] [1769-SDN Scanner Module [105]
Device Ident Vendor: Type: Device: Catalog:	Upload Download Cancel ity [Primary] Rockwell Automation/Allen-Bradley [1] Communications Adapter [12] 1769-SDN Scanner Module [105] 1769-SDN



4 Note the that offset where the Kuebler 5860 encoder has been mapped is "1:I.Data[3]" Other memory locations are reserved for other nodes:

eneral Module	Scanlist Input	Output ADR	Sun	nmary
Node	A Type Size	Мар		AutoMap
🕀 🧶 06, 5860) Polled 4	1:I.Data[3].0		(CARSENSE)
🖻 - 🆀 11, RM8	3 Polled 8	No		Unmap
				Advanced
•			D.	Options
Memory: Dis	crete 🗾	Start DWord:		3
Dite ST-0			11111	
1 Data(0)				
1:I.Data[0] 1:I.Data[1]	1	Reserved		
1:I.Data[0] 1:I.Data[1] 1:I.Data[2]		Reserved		
1:I.Data[0] 1:I.Data[1] 1:I.Data[2] 1:I.Data[3]		Reserved		
1:1.Data[0] 1:1.Data[1] 1:1.Data[2] 1:1.Data[3] 1:1.Data[4]		Reserved		
1:I.Data[0] 1:I.Data[1] 1:I.Data[2] 1:I.Data[3] 1:I.Data[4] 1:I.Data[5] 1:I.Data[5]		Reserved		
1:I.Data[0] 1:I.Data[1] 1:I.Data[2] 1:I.Data[3] 1:I.Data[4] 1:I.Data[5] 1:I.Data[6] 1:I.Data[7]		Reserved 06, 58600NET Reserved		

5 Remove Kuebler 5860 encoder from the scanlist, click "**Apply**" and download configuration to the scanner:



6 Remove the Kuebler 5860 encoder from the network; set address of the RM-89 to 6 and cycle power to the RM-89. Browse network and click on "≠":





7 Click **OK** to resolve mismatch:

*DeviceNet - RSNetWork for DeviceNet				
Elle Edit View Network Device Diagnostics Icols Help				
12 2 · 2 2 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 & 1 &	* 0	22		
1769-SDN 2000NET 1770-KFD RM89-Device Scanner RS232 Interface	Device Mis	match - [Address 06]		×
Module 00 1 62 11	An identity A difference identity of the Configuration Upon comp	mamatch has been detected e exists between the identity of the device he actual online device. this difference, click OK. The software w on while changing to the device identity th detion, the Message view will indicate the	e that you configured offline and the all altempt to maintain the current device nat was detected online. mesuit of this change.	
	Type Vendor Device Product Revision	Office Identity Kubier GmbH (779) Generic Device(deprecated for new 58600NET (22624) 1.005	Online Identity Turck [48] Encoder [34] RM89-DeviceNet [33] 1.002	
		OK. Cancel	Help	

8 Enter into Name "RM89" , click " $\ensuremath{\mathsf{Apply}}$ " and " $\ensuremath{\mathsf{OK}}$ "

1769-SDN Scapper	NET SEGONET	<u>?</u>
Module	General Parameters I/D Data EDS File	
	- BMISDavication	
(iii)		
00	Name: PIMiss	
	Description	
	Enter RM89	
	Name	
	Addets 1	
	Device Identity [Primary]	
	Vendor: [Turck [43]	
	Type: Encoder [34]	
	Device: [RM89-DeviceNet [39]	
	Catalog RM89DNET	
	Revision 1.002	the last

9 Click on the scanner and upload scanlist;

- a. Uncheck "Automap on Add"
- b. Click > to enter RM89 into scanlist
- c. Click Apply





10 Click on Input tab and Advanced...

eneral Module	Scanlist Input	Output AD	R Sur	nmary
Node	/ Type Size 39 Polled 8	Map	T	AutoMap
				Unmap
				Advanced.
•			•	Options
Memory: Di	screte 💌	Start DWord	t 0	÷
Bits 31 - 0	1111111111	1111111	ШП	
1:1 Data[0]				
1:1.Data[1]				
1:1.Data[2]				
1:1.Data[3]				
1:I.Data[4]				
1:I.Data[5]				
1:I.Data[6]				
1:1.Data[7]	1.2			1
1:I.Data[8]				

11 Advanced mapping is done exactly as follows:

ooe Ivance	d Mapping :	e 5128 06, RM89	мар		årånM ?
Мар	Message	Offset	Memory	Offset	Bit Leng
1	<not mapped<="" td=""><td>Ð</td><td></td><td></td><td></td></not>	Ð			
2	(not mapped	\$			
3	<not mapped<="" td=""><td>D b</td><td></td><td></td><td></td></not>	D b			
2	<not mapped<="" td=""><td>ν</td><td></td><td></td><td></td></not>	ν			
Map I Mes Byte Bit:	sage: Pole	▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼▼■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■<	Memory: DWord: Bit:	Discrete 3	•
		1	Rit Length	32 -	Ę

First 32 bits will be mapped to the scanlist at offset "1:I.Data[3]". Click Apply and Close:

vanced Ma	apping : 06, R	MB9	
Map Me	ssage (Offset Memory	Offset Bit Ler
1 <nc< td=""><td>ot mapped></td><td></td><td></td></nc<>	ot mapped>		
2 (no	ot mapped>		
3 <nc< td=""><td>of mapped></td><td></td><td></td></nc<>	of mapped>		
4 <nd< td=""><td>ot mapped></td><td></td><td></td></nd<>	ot mapped>		
4			
Mar Free		Mar Ta	
Map From		Map To:	
Message	Polled	 Memory: 	Discrete
			-
Byte:	0 3	DWord	3 🗄
222		Bit	0 3
Bit:	1º	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
Bit:	1º 코		
Bit	E 9	Rà Lanathi	2



12 Map RM-89 outputs to unused portion of the IO data map; click **apply** and **download to the scanner:**

	A Upe	Size	Map		A. Jakkan
🗉 📲 06, RI	M89 Polled	5	1:0.Data[85]	0	Automap
_					
					Unmap
					-
					Advanced
4		1			Options
-		_			
Memory: [Discrete		Start DWor	dt 85	
Bits 31 - 0					
Bits 31 - 0 1:0.Data[81]					
Bits 31 - 0 1:0.Data[81] 1:0.Data[82]					
Bits 31 - 0 1:0.Data[81] 1:0.Data[82] 1:0.Data[83]					
Bits 31 - 0 1:0.Data[81] 1:0.Data[82] 1:0.Data[83] 1:0.Data[84]					
Bits 31 - 0 1:0.Data[81] 1:0.Data[83] 1:0.Data[83] 1:0.Data[84] 1:0.Data[85]			06. RM85		
Bits 31 - 0 1:0.Data[81] 1:0.Data[82] 1:0.Data[83] 1:0.Data[83] 1:0.Data[85] 1:0.Data[86]			06, RM89		06. RM89
Bits 31 - 0 1:0.Data[81] 1:0.Data[82] 1:0.Data[83] 1:0.Data[83] 1:0.Data[85] 1:0.Data[86] 1:0.Data[86] 1:0.Data[87]			06, RM85		06, RM89
Bits 31 - 0 1:0.Data[81] 1:0.Data[82] 1:0.Data[83] 1:0.Data[83] 1:0.Data[85] 1:0.Data[86] 1:0.Data[87] 1:0.Data[88]			06, RM85		06, RM89

13 Double-click on RM89 and upload parameters; General tab shows device identity:

1*0	evic	eNe	t - P	SNet	Wor>	for l	Devid	eNet															
Ele	Edit	ÿ	ew .	Netwo	ek [evice	Dija	gnost	ics	Lools	Help			1									
		•		9	ð	-D	R	4?		Q (a	Ξ.	E 📽 • 😽	4	÷								
		176 Sca	9-SI	DN .		RN	489		177 RS2	0-KFI 232 In	D terfac		RM89									?	×
	i	Mot	iule	20			_						General Para	neter	s 1/0	Data	EDS	File					
						-				-			- 🚰 R	M894	Devicel	Net							
			00							6	2		Name:	1	RM83		_	_	_	_	_	_	
													Description	1		_	_	_	_	_	_	_	
	_		t				-					1											
													Address:	1	6	_	1						
													- Device Ider	hily []	Primary	1							
													Vendor:	T	urck [4	8]						_	
													Type:	JE1	ncoder	[34]						_	
													Device:	R	M89-D	evicel	tet [39]					_	
													Revision	1	002	46.1		-			and a		
													nonaut	Tr.				-			-		
														0	K]_	Cance		Ap	ply		Help	

14 Click on **Parameters**, highlight "**Position**" parameter:





15 Click on **Monitor,** turn shaft and monitor position:

ieneral	Para Sele	meter	* I/O Data EDS File parameter that you want to o	configure and initiate an
🗖 Gr	actio oups	n usir	ing the toolbar.	🔿 Monitor 📲 🖷
ID		•	Parameter	Current Value
	1		Direction Counting Toggle	CW
	2		Scaling Function Control	ON
	3		Measuring Unit per Span	8192 Pulses
	4		Total Measuring Range	0 Pulses
	5		Velocity Format	pulses/sec
	6		Preset value	0 Pulses
-	7	6	Position	73412 Pulses
	8		Velocity	0

16 Check **PLC** reading:

Controller Tags - Sample_	PLC(controller)				
Scope: Sample_PLC	Show: All Tag	5			•
Name	Value +	182	Data Type	Description	
E-Local 31.Data	{}	Deci	DINT[90]		
E-Local 31.Data[0]	61	Deci	DINT		
E-Locat 3.I.Data[1]	0	Deci	DINT		
E Locat 31 Data[2]	0	Deci	DINT		
E-Locat 3:1.Data[3]	79237	Deci	DINT	RM89	
+ Local 3:1.Data[4]	0	Deci	DINT		
E-Locat 3:1.Data(5)	0	Deci	DINT		
[3]eter [15]ecol-[4]	0	Deci	DINT		

17 Setup other RM-89 parameters using RM-89 User Manual

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