

TUTORIAL KREO HMI Driver di comunicazione per PLC Siemens S7 serie 1200 e 1500

Tutorial dedicato alla comunicazione Ethernet con PLC Siemens S7 serie 1200 e 1500

> Connect Ideas. Shape solutions.



Introduzione

I plc SIEMENS S7 permettono di configurare un progetto in modalità ottimizzata (a indirizzamento simbolico) oppure in modalità NON ottimizzata (indirizzamento fisico delle tags).

KREO HMI permette di gestire entrambe le modalità di comunicazione. I DRIVER di comunicazione relativi sono quelli indicati in figura:





DRIVER OTTIMIZZATO (indirizzamento simbolico):

Come fare:

1) Supponiamo di configurare un progetto TIA PORTAL con diversi tipi di tags nel progetto configurate in 2 Program Blocks (di tipo DB):

DB10: Data Block di tag singole...

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	MainTC [OB123]		9 🕣	 String 	String	'CIAOCIAO'	'CIAOCIAO'						
	DataBlock10 [DB10]		10 📶	 Char 	Char	У	У						
	📒 DataBlock26 [DB26]		11 🕣	 SInt 	SInt	-126	-126						
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e DB26: Data Block di tag-array

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2) Le DB in questo caso dovranno avere in TIA Portal la PROPRIETA' OTTIMIZZATA:

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PLC data types		15 -	21 •										
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3) KREO è in grado di elaborare il file .TIA16 creato dall'editor SIEMENS e importare il file simbolico delle tags-Siemens. Importare quindi le tag in modalità SIEMENS TIA AP Project (*.ap).





4) Le tags di TIA 16 sono ora disponibili in KREO sotto forma di tagstruttura:

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	(801			

5) Il puntamento sarà dunque del tipo: es.DataBlock10.NomeTag

6) Mettendo le varie tag sulla pagina e si ottiene a RUNTIME la comunicazione S71200/1500 ottimizzata dove il protocollo di comunicazione scambia i valori delle varie tags puntando ai nomi simbolici delle tags:



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DRIVER NON OTTIMIZZATO (indirizzamento fisico):

Come fare:

1) Dallo stesso progetto TIA PORTAL deselezioniamo il check dell'ottimizzazione DB:



2) Ricompilando il progetto TIA P. genera gli indirizzi fisici delle tags nelle rispettive DB (vedi figura):



DB10 non ottimizzata:

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	Main [OB1]		8 📢	•	Byte	Byte	276.0	16#17							SU
	MainTC [OB123]		9 📢	•	String	String	278.0	'CIAOCIAO'							
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	DataBlock26 [DB26]		11 📢	•	SInt	SInt	535.0	-126							
	Technology objects		12 📢	•	USInt	USInt	536.0	255							
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MainTC [OB123]	_	9		•	CharArr	Array[0100] of Char	27790.0							
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DataBlock26 [DB26]		11			UsintArr	Array[0100] of US	27994.0							
Technology objects		12		•	IntArr	Array[0100] of Int	28096.0							
External source files		13		•	UIntArr	Array[0100] of UInt	28298.0							
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 Il progetto KREO in questo caso è configurato con il driver SIEMENS S71200 (NON simbolico)

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🗘 SETTINGS	Ethernet Allen Bradley
Languages	ESA Fatek
ຼື=ື Units ຼີດີ Security use	Modbus Omron Schneider
Notification:	Siemens Industrial ethernet protocol (LOGO! Cpu 0AB7)
	Industrial ethernet protocol (S7-1200 cpu) Industrial ethernet protocol (S7-1200 symbolic) Industrial ethernet protocol (S7-200 Smart cpu) Industrial ethernet protocol (S7-3/400 cpu)
	Serial Allen Bradley ESA Fatek Modbus Omron Schneider

4) In questo caso cambia anche la modalità di importazione KREO. Le tags si importano in modalità SIEMENS TIA (*.scl,*db)



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5) Le tags in KREO saranno ora viste non più come strutturate ma come singole tags, ciascuna con proprio indirizzo fisico



Da notare in figura che l'import richiede, in questo caso, di riconfigurare nella colonna Db il nr del DataBlock da importare.



6) Il risultato in KREO sarà il seguente:

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KREO_TESTTIA16_S		+ × [▶ D→ か					2
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	(32)	5 🖉	DataBlock10.LReal	Double	Industrial ethernet protocol (S7-1200 cpu)			
Alarms	(0)	6 🖉	DataBlock10.Byte	Byte	Industrial ethernet protocol (S7-1200 cpu)			
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P → Scripts	(0)	9 🖉	DataBlock10.SInt	Char	Industrial ethernet protocol (S7-1200 cpu)			
0 lavascripts	(0)	10 🧷	DataBlock10.USInt	Byte	Industrial ethernet protocol (S7-1200 cpu)			
• Javascripts external	(0)	11 🖉	DataBlock10.Int	Int16	Industrial ethernet protocol (S7-1200 cpu)			
	(0)	12 🖉	DataBlock10.UInt	Ulnt16	Industrial ethernet protocol (S7-1200 cpu)			
	(0)	13 🖉	DataBlock10.DInt	Int32	Industrial ethernet protocol (S7-1200 cpu)			
Iasks	(0)	14 🖉	DataBlock10.UDInt	: UInt32	Industrial ethernet protocol (S7-1200 cpu)			
Pipelines		15 🖉	DataBlock10.Date	UInt32	Industrial ethernet protocol (S7-1200 cpu)			
		16 🧷	DataBlock10.Time	UInt32	Industrial ethernet protocol (S7-1200 cpu)			
Validate project			DEDE HAT	a 100 in 100	i Elazzitati a la di rezione a s	3		



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