



**CPU224 DC/DC/DC**

Technical specifications	
Model	CPU224 DC/DC/DC
<b>Physical characteristic</b>	
Dimensions(W x H x D)(mm)	120.5x80x62
Power consume	7W
<b>Memory</b>	
Program memory size	
With run mode edit	20K
Without run mode edit	20K
Data memory	10K
Back up (by Flash, no need battery)	keep over 10 years
<b>I/O</b>	
Local digital inputs	14 inputs
Local digital outputs	10 outputs
Digital I/O image size	256(128 inputs/128 outputs)
Analog I/O image size	64(32 inputs/32 outputs)
expansion modules allowed (Max)	7 modules
intelligent modules allowed (Max)	7 modules
Pulse catch inputs	14
High-speed counters	6 counters total
Single phase	6 at 30KHz
Two phase	4 at 20KHz
Pulse outputs	2 at 20KHz ( DC outputs only )

<b>General</b>	
Timer	Total number : 256 ( 1ms:4 ; 10ms:16 ; 100ms:236 )
Counters	256
Internal memory bits stored on power down	256
Time interrupts	2 with 1ms resolution
Edge interrupts	4 up and/or 4 down
Analog adjustment	2 with 8 bit resolution
Boolean execution speed	0.08µs per instruction
Real Time Clock	Built-in
Ports	2 RS-485 ports, within 1 standard PPI port
PPI Baud Rates	9.6 , 19.2 and 187.5 Kbaud
Freeport Baud Rates	1.2kbaud to 115.2Kbaud
Max. cable length per segment	With isolated repeater : 1000 m up to 187.5kbaud, 1200 m up to 38.4kbaud Without isolated repeater: 50 m
Max. number of stations	32 per segment, 126 per network
Max. number of masters	32
Peer to peer ( PPI Master Mode )	Yes
<b>Power</b>	
Input voltage	20.4 to 28.8 VDC
Input current	110mA while CPU only at 24 VDC 700mA while Max. load at 24 VDC
Inrush current	12A at 28.8 VDC
Isolation(field to logic)	Not isolated
Hold up time ( loss of power )	10ms at 24 VDC
Sensor voltage	L+ minus 5 V
Current limit	1.5A peak , thermal limit non-destructive
Ripple noise (sensor to logic)	Derived from input power
Isolation (sensor to logic)	Not isolated
<b>CPU Digital Input Specifications</b>	
Built-in digital input	14
Input type	PNP/NPN
Rated voltage	24 VDC at 4mA
Max. continuous permissible voltage	30 VDC
Surge voltage	35 VDC for 0.5s
Logic "1" voltage range	15 to 30 VDC

Logic "0" voltage range	0 to 5 VDC
Input delay	Selectable (0.2 to 12.8ms)
Connection of 2-wire proximity sensor (Bero)	
Permissible leakage current (Max.)	1mA
Isolation (field to logic)	Yes
Optical galvanic	500 VAC for 1minute
Isolation groups	Refer to Wiring diagram
High Speed Counter (HSC) input rate	
HSC logic level 1(15 TO 30 VDC)	20K Hz (Single phase), 10K Hz (Tow phase)
HSC logic level 1(15 TO 26 VDC)	30K Hz (Single phase), 20K Hz (Tow phase),
Inputs on simultaneously	all
Cable length Max.	
Shielded	500m normal inputs, 50m HSC inputs
unshielded	300m normal inputs
<b>CPU Digital Output Specifications</b>	
Built-in outputs	10 outputs
Output type	Solid State-MOSFET(Sourcing)
Rated voltage	24 VDC
Voltage range	20.4 to 28.8 VDC
Surge current (Max.)	8A for 100ms
Logic "1" (Min)	20 VDC,at maximum current
Logic "0" (Max)	0.1 VDC with 10K $\Omega$ load
Rated current per point ( Max. )	0.75A
Rated current per common ( Max )	6A
Leakage current (Max)	10 $\mu$ A
Lamp load (Max)	5W
Inductive clamp voltage	L+ minus 48 VDC, 1w dissipation
On State resistance (contact)	0.3 $\Omega$ Typical ( 0.6 $\Omega$ max. )
Isolation	
Optical (galvanic, field to logic)	500 VAC for 1 minute
logic to contact	-
Resistance (logic to contact)	-
Isolation groups	Refer to wiring diagram
Delay(Max)	
Off to on	2 $\mu$ s(Q0.0,Q0.1), 15 $\mu$ s(others)
On to off	10 $\mu$ s(Q0.0,Q0.1), 130 $\mu$ s(others)

Switching	-
Pulse frequency (Max.)	20KHz (Q0.0 and Q0.1)
Lifetime mechanical cycles	-
Lifetime contacts	-
Outputs on simultaneously	All at 60°C(horizontal) All at 50°C (Vertical)
Connecting two outputs in parallel	Yes, only outputs in same group
Cable Length (Shielded)	500m
Cable Length (unshielded)	150m
<b>Order number</b>	<b>UN 214-1AD23-0XB0</b>