

# UniPi Neuron XS40

## Registers

Register Number	R/W	Data Type	Content	Bit Nr.
0	R	MixedBits	Digital inputs	
			Digital input 1	0
			Digital input 2	1
			Digital input 3	2
			Digital input 4	3
			Digital input 5	4
			Digital input 6	5
			Digital input 7	6
			Digital input 8	7
1	RW	MixedBits	Relay outputs	
			Relay output 1	0
			Relay output 2	1
			Relay output 3	2
			Relay output 4	3
			Relay output 5	4
			Relay output 6	5
			Relay output 7	6
			Relay output 8	7
			Relay output 9	8
			Relay output 10	9
			Relay output 11	10
			Relay output 12	11
			Relay output 13	12
Relay output 14	13			
2	RW	MixedBits	MasterWatchDog (MWD) status	
			MWD enable	0
			MWD reboot detected	1
3 – 4	RW	DWord	Counter of Digital input 1	
5 – 6	RW	DWord	Counter of Digital input 2	
7 – 8	RW	DWord	Counter of Digital input 3	
9 – 10	RW	DWord	Counter of Digital input 4	
11 – 12	RW	DWord	Counter of Digital input 5	
13 – 14	RW	DWord	Counter of Digital input 6	
15 – 16	RW	DWord	Counter of Digital input 7	
17 – 18	RW	DWord	Counter of Digital input 8	
23	RW	MixedBits	User programmable LED settings	
			User LED X1	0
			User LED X2	1
			User LED X3	2
			User LED X4	3
1000	R		Firmware version	
1001	R		Number of DI/Dos	
			Number of Dos	0 – 7
			Number of Dis	8 – 15
1002	R	MixedBits	Number of AI/Ao/Serials	
			Number of serial lines	0 – 3
			Number of AOs	4 – 7
			Number of AIs	8 – 15

1003			HW Version	
1004	R	Word	Board HW version	
1005 – 1006	R	DWord	Board serial number	
1007	R	MixedBits	Interrupt mask	
			Serial line RX queue not empty	0
			Sending on serial line finished	1
			Receiving Modbus RTU frame finished	2
			Digital input changed state	3
1008	RW	Word	MWD timeout	
1009	R	Word	Vref	
1010	RW	Word	Debounce time of DI1 [100µs]	
1011	RW	Word	Debounce time of DI2 [100µs]	
1012	RW	Word	Debounce time of DI3 [100µs]	
1013	RW	Word	Debounce time of DI4 [100µs]	
1014	RW	Word	Debounce time of DI5 [100µs]	
1015	RW	Word	Debounce time of DI6 [100µs]	
1016	RW	Word	Debounce time of DI7 [100µs]	
1017	RW	Word	Debounce time of DI8 [100µs]	
1018	RW	MixedBits	Direct Switch function	
			Enable DS on DI1	0
			Enable DS on DI2	1
			Enable DS on DI3	2
			Enable DS on DI4	3
			Enable DS on DI5	4
			Enable DS on DI6	5
			Enable DS on DI7	6
			Enable DS on DI8	7
1019	RW	MixedBits	Enable DS polarity function	
			Enable DS polarity on DI1	0
			Enable DS polarity on DI2	1
			Enable DS polarity on DI3	2
			Enable DS polarity on DI4	3
			Enable DS polarity on DI5	4
			Enable DS polarity on DI6	5
			Enable DS polarity on DI7	6
			Enable DS polarity on DI8	7
1020	RW	MixedBits	Enable DS toggle function	
			Enable DS toggle on DI1	0
			Enable DS toggle on DI2	1
			Enable DS toggle on DI3	2
			Enable DS toggle on DI4	3
			Enable DS toggle on DI5	4
			Enable DS toggle on DI6	5
			Enable DS toggle on DI7	6
			Enable DS toggle on DI8	7
1021	RW	MixedBits	Configuration of RS485 serial line	
			Baud rate	0 – 12
			Parity enable (0 = None, 1 = Even/Odd)	13
			Parity – 0=Even, 1=Odd	14
1022	RW	Word	Modbus Address (1 – 254)	

## Baud rate configuration

Value	Speed [bps]
11	2 400
12	4 800
13	9 600
14	19 200
15	38 400
4097	57 600
4098	115 200

## Coils

Coil	R/W	Content
0	RW	Relay Output 1
1	RW	Relay Output 2
2	RW	Relay Output 3
3	RW	Relay Output 4
4	RW	Relay Output 5
5	RW	Relay Output 6
6	RW	Relay Output 7
7	RW	Relay Output 8
8	RW	Relay Output 9
9	RW	Relay Output 10
10	RW	Relay Output 11
11	RW	Relay Output 12
12	RW	Relay Output 13
13	RW	Relay Output 14
14	RW	Digital Input 1
15	RW	Digital Input 2
16	RW	Digital Input 3
17	RW	Digital Input 4
18	RW	Digital Input 5
19	RW	Digital Input 6
20	RW	Digital Input 7
21	RW	Digital Input 8
22	RW	User programmable LED X1
23	RW	User programmable LED X2
24	RW	User programmable LED X3
25	RW	User programmable LED X4
1000	RW	MWD reset indication/reset
1002	RW	Reset CPU
1003	RW	Save current configuration as default to NV RAM
1016	RW	Enable DS on DI 1
1017	RW	Enable DS on DI 2
1018	RW	Enable DS on DI 3
1019	RW	Enable DS on DI 4
1020	RW	Enable DS on DI 5
1021	RW	Enable DS on DI 6
1022	RW	Enable DS on DI 7
1023	RW	Enable DS on DI 7
1024	RW	Enable DS polarity on DI 1
1025	RW	Enable DS polarity on DI 2
1026	RW	Enable DS polarity on DI 3

<b>1027</b>	RW	Enable DS polarity on DI 4
<b>1028</b>	RW	Enable DS polarity on DI 5
<b>1029</b>	RW	Enable DS polarity on DI 6
<b>1030</b>	RW	Enable DS polarity on DI 7
<b>1031</b>	RW	Enable DS polarity on DI 8
<b>1032</b>	RW	Enable DS toggle on DI 1
<b>1033</b>	RW	Enable DS toggle on DI 2
<b>1034</b>	RW	Enable DS toggle on DI 3
<b>1035</b>	RW	Enable DS toggle on DI 4
<b>1036</b>	RW	Enable DS toggle on DI 5
<b>1037</b>	RW	Enable DS toggle on DI 6
<b>1038</b>	RW	Enable DS toggle on DI 7
<b>1039</b>	RW	Enable DS toggle on DI 8