



JetControl 24x

Version Update from V3.21 to V3.22



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1 Introduction

Overview of Version Updates			
Version	Description	New	Fixed
3.22	Flags overlaid over registers	✓	
	E-Mail	✓	
	Operating System Update		✓
	Flash disk		✓
3.21	Serial Interfaces	✓	✓
	System command	✓	
	Timer instructions	✓	
	Special register(s)	✓	
	Ethernet / Networking	✓	✓
	System bus		✓
3.20	EtherNet/IP adapter	✓	
	User-programmable CAN Interface	✓	
	DNS	✓	
	System bus	✓	
	RTC		✓

1.1 Update Information

After updating from an OS revision before V3.22, the battery-backed special registers are set to their default values when the controller is powered on for the **first time**.

2 New Features

2.1 Flags Overlaid Over Registers

So far, 24 flags in the area ranging from 256 ... 2047 are overlaid to registers 0 ... 74 each. The bits of the most significant bytes could not be accessed via flags. System command 135 can be used to set that each register comprises 32 flags. For overlaying purposes in this configuration registers 0 through 55 are used, too. 24-flag overlaying is set by default.

2.1.1 System Commands

Two new commands have been added to the system command register. These commands allow to switch between 24-flag and 32-flag overlaying. For these commands the correct value has to be entered into the password register beforehand.

Register 2960: Password for system commands	
Function	Description
Read	0 or value which has been entered last
Write	Enter password: 1112502132 (0x424f6f74)
Value range	32 bits
Value following reset	0

Register 2961: System command	
Function	Description
Read	-1, 0 or value which has been entered last
Write	Issue command 102: Software restart by jumping to OS start 1102: Hardware restart by initiating a watchdog reset after 250 ms 104: Resetting to factory settings 204: Resetting to factory settings and clearing the application program 134: Setting to 24-flags overlaying 135: Setting to 32-flags overlaying
Value range	32 bits
Value following reset	0

2.1.2 24-flag Overlaying

This is the default setting on powering up the controller and following system command 134.

The flag listed in the table first is overlaid over bit 0 of the given register. The second parameter specifies the flag number for bit 23.

Register	Flags
0	FLAG 256 ... 279
1	FLAG 280 ... 303
2	FLAG 304 ... 327
3	FLAG 328 ... 351
4	FLAG 352 ... 375
5	FLAG 376 ... 399
6	FLAG 400 ... 423
7	FLAG 424 ... 447
8	FLAG 448 ... 471
9	FLAG 472 ... 495
10	FLAG 496 ... 519
11	FLAG 520 ... 543
12	FLAG 544 ... 567
13	FLAG 568 ... 591
14	FLAG 592 ... 615
15	FLAG 616 ... 639
16	FLAG 640 ... 663
17	FLAG 664 ... 687
18	FLAG 688 ... 711
19	FLAG 712 ... 735
20	FLAG 736 ... 759
21	FLAG 760 ... 783
22	FLAG 784 ... 807
23	FLAG 808 ... 831
24	FLAG 832 ... 855
25	FLAG 856 ... 879
26	FLAG 880 ... 903
27	FLAG 904 ... 927
28	FLAG 928 ... 951
29	FLAG 952 ... 975
30	FLAG 976 ... 999
31	FLAG 1000 ... 1023
32	FLAG 1024 ... 1047
33	FLAG 1048 ... 1071
34	FLAG 1072 ... 1095
35	FLAG 1096 ... 1119
36	FLAG 1120 ... 1144
37	FLAG 1144 ... 1167
38	FLAG 1168 ... 1191
39	FLAG 1192 ... 1215
40	FLAG 1216 ... 1239

41	FLAG 1240 ... 1263
42	FLAG 1264 ... 1287
43	FLAG 1288 ... 1311
44	FLAG 1312 ... 1335
45	FLAG 1336 ... 1359
46	FLAG 1360 ... 1383
47	FLAG 1384 ... 1407
48	FLAG 1408 ... 1431
49	FLAG 1432 ... 1455
50	FLAG 1456 ... 1479
51	FLAG 1480 ... 1503
52	FLAG 1504 ... 1527
53	FLAG 1528 ... 1551
54	FLAG 1552 ... 1575
55	FLAG 1576 ... 1659
56	FLAG 1600 ... 1623
57	FLAG 1624 ... 1647
58	FLAG 1648 ... 1671
59	FLAG 1672 ... 1695
60	FLAG 1696 ... 1719
61	FLAG 1720 ... 1743
62	FLAG 1744 ... 1767
63	FLAG 1768 ... 1791
64	FLAG 1792 ... 1815
65	FLAG 1816 ... 1839
66	FLAG 1840 ... 1863
67	FLAG 1864 ... 1887
68	FLAG 1888 ... 1911
69	FLAG 1912 ... 1935
70	FLAG 1936 ... 1959
71	FLAG 1960 ... 1983
72	FLAG 1984 ... 2007
73	FLAG 2008 ... 2031
74	FLAG 2032 ... 2047 (bit 0 .. 15)

2.1.3 32-flag Overlaying

This is the type of overlaying triggered by system command 135.

The flag listed in the table first is overlaid over bit 0 of the given register. The second parameter specifies the flag number for bit 31.

Register	Flags
0	FLAG 256 ... 287
1	FLAG 288 ... 319
2	FLAG 320 ... 351
3	FLAG 352 ... 383
4	FLAG 384 ... 415
5	FLAG 416 ... 447
6	FLAG 448 ... 479
7	FLAG 480 ... 511

8	FLAG 512 ... 543
9	FLAG 544 ... 575
10	FLAG 576 ... 607
11	FLAG 608 ... 639
12	FLAG 640 ... 671
13	FLAG 672 ... 703
14	FLAG 704 ... 735
15	FLAG 736 ... 767
16	FLAG 768 ... 799
17	FLAG 800 ... 831
18	FLAG 832 ... 863
19	FLAG 864 ... 895
20	FLAG 896 ... 927
21	FLAG 928 ... 959
22	FLAG 960 ... 991
23	FLAG 992 ... 1023
24	FLAG 1024 ... 1055
25	FLAG 1056 ... 1087
26	FLAG 1088 ... 1119
27	FLAG 1120 ... 1151
28	FLAG 1152 ... 1183
29	FLAG 1184 ... 1215
30	FLAG 1216 ... 1247
31	FLAG 1248 ... 1279
32	FLAG 1280 ... 1311
33	FLAG 1312 ... 1343
34	FLAG 1344 ... 1375
35	FLAG 1376 ... 1407
36	FLAG 1408 ... 1439
37	FLAG 1440 ... 1471
38	FLAG 1472 ... 1503
39	FLAG 1504 ... 1535
40	FLAG 1536 ... 1567
41	FLAG 1568 ... 1599
42	FLAG 1600 ... 1631
43	FLAG 1632 ... 1663
44	FLAG 1664 ... 1695
45	FLAG 1696 ... 1727
46	FLAG 1728 ... 1759
47	FLAG 1760 ... 1791
48	FLAG 1792 ... 1823
49	FLAG 1824 ... 1855
50	FLAG 1856 ... 1887
51	FLAG 1888 ... 1919
52	FLAG 1920 ... 1951
53	FLAG 1952 ... 1983
54	FLAG 1984 ... 2015
55	FLAG 2016 ... 2047

2.2 E-Mail

The maximum lengths of address list, subject and e-mail text have been increased. Thus, the maximum lengths of individual e-mail sections are as follows:

[FROM]	63
[TO]	255
[CC]	255
[SUBJECT]	255
[MESSAGE]	65535

3 Fixed Software Bugs

3.1 Operating System Update

If an application program was read-protected by a password, neither the OS of the CPU nor the OS of a slave module could be transferred. Starting from this version the OS of a slave module can be updated.

3.2 Flash Disk

OS version 3.21 did not allow to format the flash disk using register 2936. Starting from this version the flash disk is formatted if register 2936 contains value 29547 when the controller is powered up.