

Status-Bits EN

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Distribution and release list (alphabetical)

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History of changes

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33493	2017-09-28	Changed the supply voltage limit for the status bits (Warning:) Power Output Limit Exceeded from 20 V to 17 V.	CK	Draft
32106	2017-05-30	Changed temperature warning (110 °C) and error (120 °C) thresholds.	CK	Draft
27906	2016-06-09	Added Auxiliary Pickup Supply Voltage 2 Failure to General Status 2.	CK	Draft
27007	2016-04-15	Added status bits regarding pickup redundancy to General Status 2.	CK	Draft
27005	2016-04-14	Added Testbed Operation to General Status 1.	CK	Draft
26399	2016-02-25	Added GPO2 and GPO3 to General Status 1.	CK	Draft
25923	2015-12-17	Added "Cylinder Individual Timing Limited" to General Status 2.	CK	Draft
25342	2015-10-30	Updated Temperature limits.	CK	Draft
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Document Management

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1 Introduction

1.1 Purpose of this Document

This document describes the MIC6's status bits.

1.2 Further applicable documents

1.3 Glossary

1.4 Notation notes

Unless otherwise noted a set status bit indicates that the given status is active.

K – status class

- i follows a specific state, gets immediately reset
- a reset after acknowledge
- n not resettable without restarting the device

2 General Status 1

No.	Name	K	Description/Comments
1	Device Status: Ready	i	The device is ready and waiting for pickup signal activity.
2	Device Status: Operation	i	Pickup signal activity was detected and so far no error occurred. The current sub-state is indicated by bit 6-9.
3	Device Status: Configuration	i	The device is being configured.
4	Device Status: Self Test	i	Self test in progress.
5	reserved	-	-
6	Device Status: Firing Active	i	Ignition is operating.
7	Device Status: Firing Locked	i	Pickup signals are available and valid but ignition is locked.
8	Device Status: Wait for Engine Stop	i	Pickup signals are available, it has been fired above security speed and the ignition was locked. The engine has to stop before it can be started again.
9	Device Status: Synchronization	i	Pickup signals are available and being checked.
10	Operational Error	a	An operational error occurred.
11	System Error	n	A system error occurred.
12	Testbed Operation	i	The device is in testbed operation.
13	Condensed Primary Open	i	Primary open is indicated for at least one output.
14	Condensed Primary Short	i	Primary short is indicated for at least one output.
15	Condensed Secondary Open	i	Secondary open is indicated for at least one output.
16	Condensed Secondary Short	i	Secondary short is indicated for at least one output.
17	Start Phase	i	The engine is in the start phase.
18	Firing Enabled	i	Firing is enabled. Usually this equals the logic state of the start/stop input. 0: Firing locked 1: Firing enabled

19	Schedule A/B	i	Current schedule 0: Schedule A 1: Schedule B
20	Primary Open Detection Enabled	i	During ignition: detection currently enabled Otherwise: detection supported with the selected coil
21	Primary Short Detection Enabled	i	During ignition: detection currently enabled Otherwise: detection supported with the selected coil
22	Secondary Open Detection Enabled	i	During ignition: detection currently enabled Otherwise: detection supported with the selected coil
23	Secondary Short Detection Enabled	i	During ignition: detection currently enabled Otherwise: detection supported with the selected coil
24	Secondary Voltage Estimation Enabled	i	During ignition: estimation currently enabled Otherwise: estimation supported with the selected coil
25	GPO1	i	Logic state of GPO1 0: Not switched 1: Switched
26	GPO2	i	Logic state of GPO2 0: Not switched 1: Switched
27	GPO3	i	Logic state of GPO3 0: Not switched 1: Switched
28	reserved	-	-
29	GPI1	i	Input level of GPI1
30.. 32	reserved	-	-

3 General Status 2

No.	Name	K	Description/Comments
1	Warning: Temperature Limit Exceeded	i	The warning is set if the device temperature exceeds the limit of 110 °C (230 °F) for 2 minutes. If the device temperature falls below the threshold, the warning is automatically reset.
2	Warning: Power Output Limit Exceeded	i	The warning is set if the power output exceeds the limit of 224 W for 2 minutes. If the supply voltage is below 17 V this warning occurs also with lower power output. If the power output falls below the threshold, the warning is automatically reset.
3	Warning: Invalid Coil Data Received	i	During configuration coil data have been received but

			these data were incomplete or invalid when the configuration state was left. The warning is not set if no coil data have been received. If the configuration state is left after receiving complete and valid coil data have been received, the warning is reset.
4	Warning: Configuration Invalid	i	The warning is set if the configuration is invalid when the configuration state is left. Otherwise the warning is reset.
5	Warning: Pickup Configuration Invalid	i	The warning is set if a configuration with invalid pickup settings has been transferred. The warning is automatically reset after a valid pickup configuration has been transferred.
6	Warning: Configuration Data CRC Failure	i	The configuration stored in non-volatile memory could not have been read because a CRC check failed. The warning is reset after a new valid configuration is stored.
7	Analog Current Input Failure	i	The analog current input signal fails.
8	Analog Voltage Input Failure	i	The analog voltage input signal fails.
9	Auxiliary Analog Input Supply Voltage Failure	i	The measured value of the auxiliary analog input supply voltage deviates from the set value.
10	Auxiliary Pickup Supply Voltage 1 Failure	i	The measured value of the auxiliary pickup supply voltage 1 deviates from the set value.
11	Global Timing Limited	i	The global timing point is currently limited by the timing limits.
12	Cylinder Individual Timing Limited	i	The cylinder individual timing offset of at least one output exceeds the limits of the current schedule.
13	Auxiliary Pickup Supply Voltage 2 Failure	i	The measured value of the auxiliary pickup supply voltage 2 deviates from the set value.
14.. 20	reserved (for future use)	-	-
21	Pickup Redundancy Enabled	i	Pickup redundancy is enabled in the configuration.
22	Pickup Redundancy Available	i	More than one pickup set is synchronized and a failing pickup set does not necessarily lead to an error.
23.. 24	reserved (for future use)	-	-
25	Pickup Set 1: Synchronization	i	Pickup signals on pickup set 1 are available and are being checked.
26	Pickup Set 1: Operation	i	Pickup signals on pickup set 1 are valid and the pickup set is synchronized.
27.. 28	reserved (for future use)	-	-
29	Pickup Set 2: Synchronization	i	Pickup signals on pickup set 2 are available and are being checked.
30	Pickup Set 2: Operation	i	Pickup signals on pickup set 2 are valid and the pickup set is synchronized.
31.. 32	reserved (for future use)	-	-

32			
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4 Error

No.	Name	K	Description/Comments
1	General Error	a/n	General error. See message log for details. In case of an operational error the error can be acknowledged. In case of a system error the device has to be restarted.
2	Overspeed	a	Overspeed
3	Pickup Signal in Self-Test Detected	a	The self-test was aborted because pickup signal activity has been detected.
4	Alarm Shutdown	a	The ignition was shutdown because of an alarm.
5	Output Board Identification Failed	n	Output board identification data could not be read, are defective or do not match the device.
6	Power Failure	n	The high voltage power supply has signaled a failure.
7	Temperature Sensor Failure	n	An error occurred while reading a temperature sensor.
8	Current Sensor Failure	n	During current measurement an error occurred.
9	Temperature Limit Exceeded	a	The error is triggered if the device temperature exceeds 120 °C (248 °F) or if it exceeds 110 °C (230 °F) for 10 minutes.
10	Power Output Limit Exceeded	a	The error is triggered if the power output exceeds 244 W or if it exceeds 224 W for 3 minutes. If the supply voltage is below 17 V this error occurs also with lower power output.
11	Device Started After Supply Voltage Failure	a	The device was started or powered on again after a supply voltage failure.
12.. 32	reserved (for future use)	-	-

5 Pickup Status

Pickup status bits are set on the respective condition.

Status bits set during synchronization get automatically reset after successful synchronization. If the synchronization fails, the bits are reset at the beginning of the next synchronization.

If status bits are set during operation but not for an operational error, these bits will be reset automatically during operation or when the engine stopped. In case of an operational error the status bits will be active until the error has been acknowledged.

Exceptions are noted in the table.

The following status bits are available for every pickup input.

No.	Name	K	Description/Comments
1	Synchronization Problem	i	Failed to synchronize to this signal or this signal combined with another input prevented the system from synchronization.
2	Operational Error	a	A signal (or timeout) on this input caused an operational

			error.
3..8	reserved (for future use)	-	-
9	No Signal	i	No signal detected on this input although it has been configured.
10	reserved	-	-
11	reserved	-	-
12	Polarity Detection Failed	i	Polarity detection failed.
13	Wrong Polarity	i	The input signal has the wrong polarity. This bit is not reset until the next synchronization.
14	reserved	-	-
15	reserved	-	-
16	No Index Mark Found	i	The index mark for N+1, N-1, ... was not found, i.e. the input has been configured for N+1 but actually reads a N disc.
17	Wrong Number of Events	i	The number of events counted does not match the number of events configured/expected.
18	Missing Signal	i	An expected signal was missing. For example the trigger period increased by more than 50%.
19	Faulty Signal	i	An unexpected signal was detected. For example the trigger period decreased to less than 50%.
20	Missing Index Mark	i	A previously checked index mark was missing. For example the additional pin of a N+1 disc is missing during operation.
21	Faulty Index	i	The index derived from this input was too early in relation to another signal. For example the reset signal of a 3PU system was too early or there was noise on the reset signal.
22	Missing Index	i	The index derived from this input was too late in relation to another signal or it was missing. For example the CAM signal was expected before a reset signal but missing.
23.. 32	reserved (for future use)	-	-

6 Copyright

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