

ProTech GII, TPS, and MSM User Configuration Guidance

Issue

ProTech GII, TPS, and MSM controls support a variety of configuration options. When using Active speed probe sensors, certain configurations could lead to a lapse in overspeed protection, if multiple faults occur in the system comprised of the ProTech, field wiring and speed sensors.

Description

The ProTech GII, TPS and MSM are fault tolerant safety control devices that are fully configured by customers for each unique site application. These products have many functional options available and the system is designed to continually provide its primary function, even when one fault occurs anywhere in the ProTech system.

It has come to our attention that some user configurations of these products, may not react as expected when a second fault occurs in the ProTech system.

These safety products are all configurable by the user, so it is important to emphasize the following points:

- On any configurable device – it is possible to have a valid configuration that may not do all that is expected, verification of customer and installers requirements and unit testing at site commissioning is required to ensure the appropriate response to faults in the system.
- On any fault tolerant system, a single fault should be investigated and addressed. Depending on the configuration, running the system in a prolonged mode with an active alarm, leaves it in a state where a second fault could cause a trip or prevent the unit from performing its primary function.

If your configuration settings utilize one of the following features, this Service Bulletin can be disregarded:

1. Probe Type: PASSIVE (such as MPU's)
2. Speed Fail Trip: USED

Configure Speed Input	
Probe Type	PASSIVE
Nr of Gear Teeth	60
Gear Ratio	1.0000
Overspeed Trip	4100.0 RPM
Sudden Speed Loss	TRIP
Speed Loss Threshold	200.0 RPM
Press ENTER to edit value	
Monitor Menu	View Logs Config Menu Test Menu

OR

Configure Start Logic	
Speed Fail Setpoint	100 RPM
Speed Fail Trip	USED
Speed Fail Alarm	NOT USED
Speed Fail Timeout Trip	USED
Speed Fail Timeout Time	00:00:30 hh:mm:ss
Press ENTER to edit value	
Monitor Menu	View Logs Config Menu Test Menu

If your configuration settings are using Active probes (not MPU's) and your configuration has Speed Fail Trip set to "NOT USED" follow the instructions in the Corrective Action section below.

Configure Speed Input			Configure Start Logic	
Probe Type	ACTIVE	AND	Speed Fail Setpoint	100 RPM
Nr of Gear Teeth	60		Speed Fail Trip	NOT USED
Gear Ratio	1.0000		Speed Fail Alarm	NOT USED
Overspeed Trip	4100.0 RPM		Speed Fail Timeout Trip	USED
Sudden Speed Loss	TRIP		Speed Fail Timeout Time	00:00:30 hh:mm:ss
Speed Loss Threshold	200.0 RPM		Press ENTER to edit value	
Press ENTER to edit value				
Monitor Menu	View Logs		Monitor Menu	View Logs
Config Menu	Test Menu		Config Menu	Test Menu

Affected Units

All units shipped with the following part numbers:


GII	TPS	MSM
8237-1244	8237-1248	8237-1252
8237-1245	8237-1249	8237-1253
8237-1246	8237-1250	8237-1254
8237-1247	8237-1251	8237-1255
8237-1367	8237-1371	8237-1375
8237-1368	8237-1372	8237-1376
8237-1369	8237-1373	8237-1377
8237-1370	8237-1374	8237-1378
8237-1594	8237-1602	8237-1492
8237-1595	8237-1603	8237-1493
8237-1596	8237-1604	8237-1494
8237-1597	8237-1605	8237-1495
8237-1598	8237-1606	8237-1496
8237-1599	8237-1607	8237-1497
8237-1600	8237-1608	8237-1498
8237-1601	8237-1609	8237-1499
8237-1660	8237-2602	8237-2492
8237-2594	8237-2603	8237-2493
8237-2595	8237-2604	8237-2494
8237-2596	8237-2605	8237-2495
8237-2597	8237-2606	8237-2496
8237-2598	8237-2607	8237-2497
8237-2599	8237-2608	8237-2498
8237-2600	8237-2609	8237-2499
8237-2601	8237-2614	

Potentially affected ProTech units may have also shipped as sub-components of other Woodward cabinets, kits and systems. Specific customer sales order details are provided by the appropriate Woodward Customer Service Representative.

Corrective Action

If you are currently using configurations described above then at your earliest convenience, plan to modify your unit configuration with the following recommendations.

It is recommended that on ProTech GII products, the option Speed Fail Trip always be set to “USED” whenever the configuration of the speed input probe type is “Active”.

ProTechGII Programming and Configuration Tool Firmware 5418-7349 rev - 

Off-Line Program Mode

Start Logic and Power Supply Alarms

Speed/Accel	Display Settings	Configuration Compare	Test Modes	Modbus	Start Logic and Power Supply Alarms	Other Outputs
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Configure Start Logic

Speed Fail Setpoint RPM

Speed Fail Trip Used v

Speed Fail Alarm Not Used v

Speed Fail Timeout Trip Not Used v


Speed Fail Timeout Time s

Power Supply Alarm Settings

Power Supply 1 Alarm Enabled Yes v

Power Supply 2 Alarm Enabled Yes v

It is recommended that on ProTech TPS or MSM products, the option Speed Fail Trip always be set to “Used” whenever the configuration of the speed input probe type is “Active”. If this is not desired, due to a need to have other Safety Instrumented Functions (SIF) protected in all 3 kernels, then use the “Speed Redundancy Management” option and configure both “Base Function” and “Fallback Function” to be HSS.

ProTechTPS Programming and Configuration Tool Firmware 5418-7350 rev - 

Off-Line Program Mode

Speed/Accel

Input Configuration	Functions	Boolean Logic	Analog Logic	Output Configuration
Speed/Accel	Inputs 1-6	Inputs 7-10	Analog Redundancy	Boolean Redundancy

Configure Speed Input

Probe Type Active v

Nr of Gear Teeth

Gear Ratio

Overspeed Trip RPM

Sudden Speed Loss Trip v

Sudden Speed Loss Threshold RPM

Configure Acceleration

Enable Acceleration Trip No v

Acceleration Trip Enable Speed RPM

Acceleration Trip RPM/s

Acceleration Filter Tau s

Speed Redundancy Management

Input 1 Module A Speed v

Input 2 Module B Speed v

Input 3 Module C Speed v

Base Function (3 inputs valid) HSS v

Two Inputs Failed Action Trip v

Fallback Function (2 inputs valid) HSS v

Difference Alarm Limit RPM

Difference Alarm Time ms

Acceleration Redundancy Management

Input 1 Not Used v

Input 2 Not Used v

Input 3 Not Used v

Base Function (3 inputs valid) Median v

Fallback Function (2 inputs valid) HSS v

Customer Action

To review their ProTech configuration and compare it with the information in this bulletin to see if any of these potential problem conditions are possible.

We suggest that customers with units that are currently in operation, to verify that they are not running with active module alarm conditions that could lead to a potential issue.

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Woodward has company-owned plants, subsidiaries, and branches, as well as authorized distributors and other authorized service and sales facilities throughout the world.

Complete address / phone / fax / email information for all locations is available on our website.