

## 1 DESCRIPTION

The GE Mark IV Speedtronic driver allows the FieldServer to receive status data from Speedtronic devices over either RS-232 or RS-485 using GE Mark IV Speedtronic protocol. The Driver acts as a Passive Client and receives status data from Speedtronic devices. Note that only Digital values are supported.

Fieldserver Mode	Nodes	Comments
Client	1-10 (max)	The max number of nodes is limited by the amount of physical ports on the FieldServer.

## 2 FORMAL DRIVER TYPE

Serial  
Passive Client

## 3 COMPATIBILITY MATRIX

FieldServer Model	Compatible with this driver
FS-x2010	Yes
FS-x2011	Yes
FSx25	No
FS-x30	Yes
FS-x40	Yes
SlotServer	No
ProtoCessor	No
ProtoNode	No

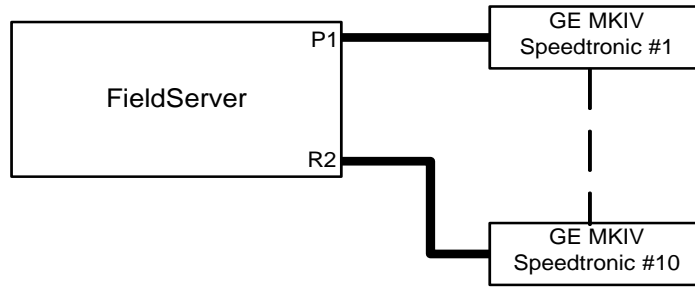
## 4 CONNECTION INFORMATION

Connection type: EIA232 or EIA485 (Two wire, Half-Duplex)  
 Baud Rates: 300; 1200; 2400; 4800; 9600; 19200; 28800; 38400 Baud – Vendor limitation.  
 Data Bits: 8 – Vendor limitation  
 Stop Bits: 1 – Vendor limitation  
 Parity: Even – Vendor limitation  
 Multidrop Capability: No

## 5 DEVICES TESTED

Device	Tested (FACTORY, SITE)
GE Mark IV Speedtronic	TBC

## 6 CONNECTION CONFIGURATIONS



Connection pinouts to be inserted



### GE MARK IV SPEEDTRONIC CONNECTION DIAGRAM

BASE NAME:  
FILE NAME:

DATE: 01/05/03  
BY: MF

## 7 COMMUNICATIONS FUNCTIONS - SUPPORTED FUNCTIONS AT A GLANCE:

### 7.1 Data Types Supported

FieldServer Data Type	Description (or Device Data Type)
Digital Input	Logic Points
Digital Register	Annunciator Alarms

### 7.2 Read Operations supported

FieldServer as a Passive Client
Read All Points and Alarm Statuses

### 7.3 Unsupported Functions and Data Types

Function	Reason
GE Mark IV Speedtronic	Only Rev. 2 12/13/84 of Speedtronic protocol is currently supported

## 8 DRIVER POINT LIST

Please note that Analog points listed are currently not supported.

Byte No.	Signal	Description	Zero Pt.	Maximum	Units	Bytes
Miscellaneous Points						
1	TIME	SECONDS	0	59		1
2	TIME	MINUTES	0	59		1
3	TIME	HOUR	0	24		1
4	TIME	DAY	0	9		1
5	TIME	MONTH	0	12		1
6	TIME	YEAR	0	99		1
7	TIMR-01	TOTAL FIRED HOURS	0	9999999.9		4
11	TIMR-02	MANUALLY INIT STARTS	0	9999999.9		4
15	CNTR-01	PEAK FIRED HOURS	0	9999999.9		4
19	CNTR-02	TOTAL STARTS	0	9999999.9		4
23	CNTR-03	FAST LOAD STARTS	0	9999999.9		4
27	CNTR-04	FIRED STARTS	0	9999999.9		4
31	CNTR-05	TRIPS	0	9999999.9		4
Integer Points						
35	TTX01-1	EXHAUST TEMPERATURE TC = 1	0	2048	DEG F	2
37	TTX01-2	EXHAUST TEMPERATURE TC = 2	0	2048	DEG F	2
39	TTX01-3	EXHAUST TEMPERATURE TC = 3	0	2048	DEG F	2
41	TTX01-4	EXHAUST TEMPERATURE TC = 4	0	2048	DEG F	2
43	TTX01-5	EXHAUST TEMPERATURE TC = 5	0	2048	DEG F	2
45	TTX01-6	EXHAUST TEMPERATURE TC = 6	0	2048	DEG F	2
47	TTX01-7	EXHAUST TEMPERATURE TC = 7	0	2048	DEG F	2
49	TTX01-8	EXHAUST TEMPERATURE TC = 8	0	2048	DEG F	2

Byte No.	Signal	Description	Zero Pt.	Maximum	Units	Bytes
51	TTX01-9	EXHAUST TEMPERATURE TC = 9	0	2048	DEG F	2
53	TTX01-10	EXHAUST TEMPERATURE TC = 10	0	2048	DEG F	2
55	TTX01-11	EXHAUST TEMPERATURE TC = 11	0	2048	DEG F	2
57	TTX01-12	EXHAUST TEMPERATURE TC = 12	0	2048	DEG F	2
59	TTX01-13	EXHAUST TEMPERATURE TC = 13	0	2048	DEG F	2
61	TTX01-14	EXHAUST TEMPERATURE TC = 14	0	2048	DEG F	2
63	TTX01-15	EXHAUST TEMPERATURE TC = 15	0	2048	DEG F	2
65	TTX01-16	EXHAUST TEMPERATURE TC = 16	0	2048	DEG F	2
67	TTX01-17	EXHAUST TEMPERATURE TC = 17	0	2048	DEG F	2
69	TTX01-18	EXHAUST TEMPERATURE TC = 18	0	2048	DEG F	2
71	TTXC	EX TEMP AVG LOW'S - HIGH AND LOW REJECTED	0	2048	DEG F	2
73	CTIF-1	COMP INLET FLANGE TEMP 1	0	2048	DEG F	2
75	CTIF-2	COMP INLET FLANGE TEMP 2	0	2048	DEG F	2
77	CTDA-1	COMP DISCHARGE TEMP 1	0	2048	DEG F	2
79	CTDA-2	COMP DISCHARGE TEMP 2	0	2048	DEG F	2
81	TTWS1FI1	TURB WHEELSPACE TEMP 1ST STG FWD INNER	0	2048	DEG F	2
83	TTWS1FI2	TURB WHEELSPACE TEMP 1ST STG FWD INNER	0	2048	DEG F	2
85	TTWS1FO1	TURB WHEELSPACE TEMP 1ST STG FWD OUTER	0	2048	DEG F	2
87	TTWS1FO2	TURB WHEELSPACE TEMP 1ST STG FWD OUTER	0	2048	DEG F	2
89	TTWS1FA1	TURB WHEELSPACE TEMP 1ST STG AFT OUTER	0	2048	DEG F	2
91	TTWS1FA2	TURB WHEELSPACE TEMP 1ST STG AFT OUTER	0	2048	DEG F	2
93	TTWS2FO1	TURB WHEELSPACE TEMP 2ND STG FWD INNER	0	2048	DEG F	2
95	TTWS2FO2	TURB WHEELSPACE TEMP 2ND STG FWD INNER	0	2048	DEG F	2
97	TTWS2AO1	TURB WHEELSPACE TEMP 2ND STG AFT OUTER	0	2048	DEG F	2
99	TTWS2AO2	TURB WHEELSPACE TEMP 2ND STG AFT OUTER	0	2048	DEG F	2
101	TTWS3FO1	TURB WHEELSPACE TEMP 3RD STG FWD INNER	0	2048	DEG F	2
103	TTWS3FO2	TURB WHEELSPACE TEMP 3RD STG FWD INNER	0	2048	DEG F	2
105	TTWS3AO1	TURB WHEELSPACE TEMP 3RD STG AFT OUTER	0	2048	DEG F	2
107	TTWS3AO2	TURB WHEELSPACE TEMP 3RD STG AFT OUTER	0	2048	DEG F	2
109	TTXSPL	COMBUSTION MONITOR ALLOWABLE SPREAD	0	2048	DEG F	2
111	TTXSP1	COMBUSTION MONITOR ACTUAL SPREAD 1	0	2048	DEG F	2
113	TTXSP2	COMBUSTION MONITOR ACTUAL SPREAD 2	0	2048	DEG F	2
115	LTHH1	LUBE TEMP TURBINE HEADER, GT/GG	0	2048	DEG F	2
117	LTB1D	LUBE TEMP NO. 1 TURB. BRG. DRAIN	0	2048	DEG F	2
119	LTB2D	LUBE TEMP NO. 2 TURB. BRG. DRAIN	0	2048	DEG F	2
121	LTBT1D	LUBE TEMP NO. 1 THRUST BRG. DRAIN	0	2048	DEG F	2
123	BTLG1	BEARING METAL TEMP LEAD GEAR =1	0	2048	DEG F	2
125	BTLG2	BEARING METAL TEMP LEAD GEAR =2	0	2048	DEG F	2
127	BTLG3	BEARING METAL TEMP LEAD GEAR =3	0	2048	DEG F	2
129	BTLG4	BEARING METAL TEMP LEAD GEAR =4	0	2048	DEG F	2
131	BTLG5	BEARING METAL TEMP LEAD GEAR =5	0	2048	DEG F	2
133	BTGJ11	BEARING METAL TEMP GEN. JOURNAL =1	0	2048	DEG F	2
135	BTGJ21	BEARING METAL TEMP GEN. JOURNAL =2	0	2048	DEG F	2
137	BB1	VIBRATION TRANSDUCER = 1	0	8	IN/SEC	2
139	BB2	VIBRATION TRANSDUCER = 2	0	8	IN/SEC	2
141	BB4	VIBRATION TRANSDUCER = 4	0	8	IN/SEC	2

Byte No.	Signal	Description	Zero Pt.	Maximum	Units	Bytes
143	BB5	VIBRATION TRANSDUCER = 5	0	8	IN/SEC	2
145	BB7	VIBRATION TRANSDUCER = 7	0	8	IN/SEC	2
147	BB8	VIBRATION TRANSDUCER = 8	0	8	IN/SEC	2
149	BB9	VIBRATION TRANSDUCER = 9	0	8	IN/SEC	2
151	BB-MAX	VIBRATION MAX SELECT	0	8	IN/SEC	2
153	PN	TURBINE STARTING DEVICE SPEED	0	125	% SPEED	2
155	TNH	TURBINE SPEED HP	0	125	% SPEED	2
157	TNR	SPEED CONTROL REFERENCE	0	125	% SPEED	2
159	FSR1	LIQUID FUEL STROKE REF. FROM FUEL SPLITTER	1	100	%	2
161	FSR2	GAS FUEL STROKE REF. FROM FUEL SPLITTER	1	100	%	2
163	CPD	COMPRESSOR DISCHARGE PRESSURE	0	2048	PSI	2
165	FPCI	INTERVALVE PRESSURE	0	2048	PSI	2
167	TTRXB	SPEED BIASED TEMPERATURE CONTROL REF.	0	2048	DEG F	2
169	CSRGV	VIGV REFERENCE ANGLE	0	100	DEGR	2
171	CSGV	INLET GUIDE VANE ANGLE (SCALED)	0	100	DEGR	2
173	FOROUT	LIQUID FUEL FLOW REFERENCE	0	10	V DC	2
175	FO	LIQUID FUEL FLOW	0	64	m/SEC	2
177	FSROUT	GAS CONTROL VALVE POSITION REFERENCE	0	10	V DC	2
179	FSG	GAS CONTROL VALVE LVDT POSITION	0	100	%	2
181	FPRG	GAS RATIO VALVE CONTROL PRESS REF.	0	10	V DC	2
183	FSGR	SPEED RATIO VALVE CALIBR. POS.	0	10	V DC	2
185	DW	GENERATOR LOAD	0.00	204.80	MW	2
187	SVL	SYSTEM LINE VOLTAGE	0	150	V RMS	2
189	SFL	SYSTEM LINE FREQUENCY	0.00	62.50	HZ	2
191	DVAR	GENERATOR LOAD VARS (SCALED)	0.00	204.80	MVAR	2
193	DDUMP1	SPARE POINT (OPT. WRITTEN TO BY SEQUENCING)	0	32768	CNT1S	2
195	DDUMP2		0	32768	CNT1S	2
197	DDUMP3		0	32768	CNT1S	2
199	DDUMP4		0	32768	CNT1S	2
201	DDUMP5		0	32768	CNT1S	2
203	DDUMP6		0	32768	CNT1S	2
205	DDUMP7		0	32768	CNT1S	2
207	DDUMP8		0	32768	CNT1S	2
207	DDUMP8		0	32768	CNT1S	2

Byte No.	Signal	Description	Logic Zero	Logic One	Bytes	
Logic points						
211	0	L30D-SD	NORMAL DISPLAY MESSAGE "SHUTDOWN STATUS"	0	1	1/8
	1	L30D-SU	NORMAL DISPLAY MESSAGE "STARTUP STATUS"	0	1	1/8
	2	L30D-RUN	NORMAL DISPLAY MESSAGE "RUN STATUS"	0	1	1/8
	3	L30D-RSZ	NORMAL DISPLAY MESSAGE "NOT READY TO START"	0	1	1/8
	4	L30D-RSZ	NORMAL DISPLAY MESSAGE "READY TO START"	0	1	1/8
	5	L30D-STG	NORMAL DISPLAY MESSAGE "STARTING"	0	1	1/8
	6	L30D-CRN	NORMAL DISPLAY MESSAGE "CRANKING"	0	1	1/8
	7	L63SUF 1	STARTUP FSR FIRING FUEL COMMAND	0	1	1/8
212	0		STARTUP FSR WARMUP FUEL COMMAND	0	1	1/8
	1		NORMAL DISPLAY MESSAGE "ACCELERATING"	0	1	1/8
	2		NORMAL DISPLAY MESSAGE "FULL SPEED NO LOAD"	0	1	1/8
	3		NORMAL DISPLAY MESSAGE "SYNCHRONIZING"	0	1	1/8
	4		NORMAL DISPLAY MESSAGE "SPINNING RESERVE"	0	1	1/8
	5		NORMAL DISPLAY MESSAGE "LOADING"	0	1	1/8
	6		NORMAL DISPLAY MESSAGE "FAST LOADING"	0	1	1/8
	7		NORMAL DISPLAY MESSAGE "PRESELECTED LOAD"	0	1	1/8
213	0		NORMAL DISPLAY MESSAGE "BASE LOAD"	0	1	1/8
	1		NORMAL DISPLAY MESSAGE "PEAK LOAD"	0	1	1/8
	2		NORMAL DISPLAY MESSAGE "PART LOAD"	0	1	1/8
	3		NORMAL DISPLAY MESSAGE "UNLOADING"	0	1	1/8
	4		NORMAL DISPLAY MESSAGE "FIRED SHUTDOWN"	0	1	1/8
	5		NORMAL DISPLAY MESSAGE "COASTING DOWN"	0	1	1/8
	6		NORMAL DISPLAY MESSAGE "ON COOLDOWN"	0	1	1/8
	7		NORMAL DISPLAY MESSAGE "OFF COOLDOWN"	0	1	1/8
214	0		OFF MODE SELECTED	0	1	1/8
	1		CRANK MODE SELECTED	0	1	1/8
	2		FIRE MODE SELECTED	0	1	1/8
	3		AUTO MODE SELECTED	0	1	1/8
	4		REMOTE MODE SELECTED	0	1	1/8
	5		NORMAL DISPLAY MESSAGE "START SELECT"	0	1	1/8
	6		NORMAL DISPLAY MESSAGE "STOP SELECT"	0	1	1/8
	7		PRE-SELECTED LOAD COMMAND	0	1	1/8
215	0		BASE LOAD COMMAND	0	1	1/8
	1		PEAK LOAD COMMAND	0	1	1/8
	2		FSR SHUTDOWN CONTROL	0	1	1/8
	3		FSR STARTUP CONTROL	0	1	1/8
	4		FSR ACCELERATION CONTROL HP SPEED	0	1	1/8
	5		FSR TEMPERATURE CONTROL	0	1	1/8
	6		FSR SPEED DROOP CONTROL	0	1	1/8
	7		FSR SPEED ISOCH CONTROL	0	1	1/8
216	0		MIN FSR LOGIC	0	1	1/8
	1		FSR MANUAL CONTROL	0	1	1/8
	2		SEQUENCE IN PROGRESS	0	1	1/8
	3		10V CONTROL MESSAGE - MAXIMUM ANGLE	0	1	1/8
	4		10V CONTROL MESSAGE - TEMPERATURE CONTROL	0	1	1/8
	5		10V CONTROL MESSAGE - MANUAL CONTROL	0	1	1/8

Byte No.	Signal	Description	Logic Zero	Logic One	Bytes
Logic points					
	6	NORMAL DISPLAY MESSAGE "VOLTAGE MATCHING"	0	1	1/8
	7	AUXILIARY TO FAST LOAD START SIGNAL	0	1	1/8
217	0	WATER WASH SELECTED	0	1	1/8
	1	FUEL LINE PURGE IN PROGRESS	0	1	1/8
	2	MASTER PROTECTIVE SIGNAL	0	1	1/8
	3	NORMAL SHUTDOWN	0	1	1/8
	4	TURBINE COMPLETE SEQUENCE	0	1	1/8
	5	HP ZERO SPEED SIGNAL	0	1	1/8
	6	MINIMUM SPEED SIGNAL (APPR 20%)	0	1	1/8
	7	ACCELERATING FUEL SPEED SIGNAL (APPR 40%)	0	1	1/8
218	0	HP OPERATING SPEED SIGNAL	0	1	1/8
	1	FLAME DETECTED CHANNEL =1	0	1	1/8
	2	FLAME DETECTED CHANNEL =2	0	1	1/8
	3	FLAME DETECTED CHANNEL =3	0	1	1/8
	4	FLAME DETECTED CHANNEL =4	0	1	1/8
	5	GENERATOR BREAKER CLOSURE	0	1	1/8
	6	SPARE POINT (OPT. WRITTEN TO BY SEQUENCING)	0	1	1/8
	7		0	1	1/8
219	0	SPARE POINT (OPT. WRITTEN TO BY SEQUENCING)	0	1	1/8
	1		0	1	1/8
	2		0	1	1/8
	3		0	1	1/8
	4		0	1	1/8
	5		0	1	1/8
	6		0	1	1/8
	7		0	1	1/8
220	0	SPARE POINT (OPT. WRITTEN TO BY SEQUENCING)	0	1	1/8
	1		0	1	1/8
	2		0	1	1/8
	3		0	1	1/8
	4		0	1	1/8
	5		0	1	1/8
	6		0	1	1/8
	7		0	1	1/8
221	0	SPARE POINT (OPT. WRITTEN TO BY SEQUENCING)	0	1	1/8
	1		0	1	1/8
	2		0	1	1/8
	3		0	1	1/8
	4		0	1	1/8
	5		0	1	1/8
	6		0	1	1/8
	7		0	1	1/8



# GE Mark IV Speedtronic

Doc. No.

FS-8700-14

Ver: 1.01

Rev: 8

Byte No.	Description	LogicZero	LogicOne	Bytes
Annunciator Alarms				
222	ALARM 0-7	0	FF	1
223	ALARM 8-15	0	FF	1
224	ALARM 16-23	0	FF	1
225	ALARM 24-31	0	FF	1
226	ALARM 32-39	0	FF	1
227	ALARM 40-47	0	FF	1
228	ALARM 48-55	0	FF	1
229	ALARM 56-63	0	FF	1
230	ALARM 64-71	0	FF	1
231	ALARM 72-79	0	FF	1
232	ALARM 80-87	0	FF	1
233	ALARM 88-95	0	FF	1
234	ALARM 96-103	0	FF	1
235	ALARM 104-111	0	FF	1
236	ALARM 112-119	0	FF	1
237	ALARM 120-127	0	FF	1
238	ALARM 128-135	0	FF	1
239	ALARM 136-143	0	FF	1
240	ALARM 144-151	0	FF	1
241	ALARM 152-159	0	FF	1
242	ALARM 160-167	0	FF	1
243	ALARM 168-175	0	FF	1
244	ALARM 176-183	0	FF	1
245	ALARM 184-191	0	FF	1
246	ALARM 192-199	0	FF	1
247	ALARM 200-207	0	FF	1
248	ALARM 208-215	0	FF	1
249	ALARM 216-223	0	FF	1
250	ALARM 224-231	0	FF	1
251	ALARM 232-239	0	FF	1
252	ALARM 240-247	0	FF	1
253	ALARM 248-255	0	FF	1