



TOTALFLOW

Technical Bulletin 109

Phase-Out and Upgrade Options for the Model 6600 Flow Computer Unit

Totalflow Technical Bulletin

Version 1.0, Revision AC (14 May 2004)

ABB Inc.

ABB Inc.
7051 Industrial Blvd
Bartlesville, Oklahoma
74006 USA

Telephone
Domestic 800 442-3097
International (918) 338-
4880
Telefax (918) 338-4607

Internet
www.abb.com/totalflow



Introduction

The model 6600 Flow Computer was the primary offering for Totalflow until 1994. This unit included a rugged cast aluminum housing that provided a distinctive look for Totalflow in the 80's and early 90's.

Phase-out of 45 milli-volt transducer family

Totalflow is announcing the phase-out of the model 6600 transducer. The transducer family consists of the following items:

- 2011809-xxx (Standard offering)
- 2011810-xxx (High pressure)
- 2018198-xxx (liquid)
- 2012700-xxx
- 2011783-xxx (SP cell for linear meter calculations)
- 2018110-xxx (SP replacement cell)
- 2017376-xxx (DP replacement cell)



We are offering a final purchase period from now to March 31st, 2004 for the above part numbers. Totalflow will continue to offer our current new, exchange and repair programs on 6600 electronic boards but transducer failures after the March 31 deadline will require you to purchase one of the upgrades described below.

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We at Totalflow have always prided ourselves to not obsolete existing field equipment. We are proud to offer several upgrades for this product to meet New AGA equation standards as well as offering additional hardware and software features.

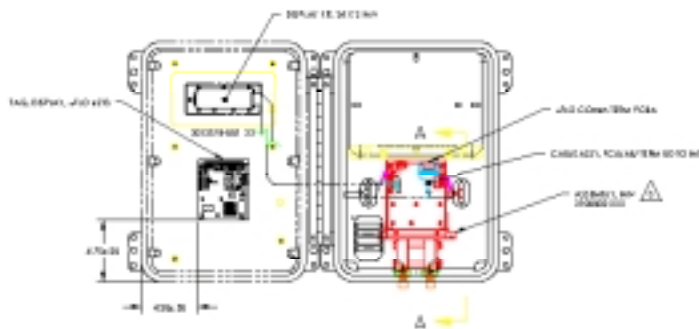
The three upgrades described below will allow you to continue to use many of your existing 6600 components including:

- Enclosure
- Termination board (2010232-xxx)
- All expansion interface boards (single AO, quad AO, RS-232/RS-485 interface board and Expanded I/O electronic board)
- Batteries
- Solar panel
- RTD probe
- Manifold and fittings
- Field wiring remains unchanged

Upgrade Paths

New Upgrade Paths

MicroFLO Upgrade – Includes the integrated MicroFLO 6213 multivariable transmitter and electronics.



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MicroFLO Hardware upgrade includes:

- Integrated transmitter and electronics board
- 2x24 LC Display
- Mounting kit (hardware to mount the Integrated unit into your existing 6600 casting)
- Interface cable (directs the MicroFLO 6213 signals through the existing filter connector and 6600 termination board)
- RS-232 or RS-485 interface module with one digital input and output

MicroFLO 6600 upgrade available using the 66181 Upgrade kit described below

Model 66181Y-1B- 4SYC-5**-6**-11**-50E-1AG-2**-3**-4AA-60***

Note: * denotes options available (see options below for proper model number codes)

Typical Model# = 66181Y-1B-4XXSYC(see below for range code)-5AA-6AA-11AA-50E-1AG-2EZ-3CS-4AA-60E, Price = \$1625 US

X = general purpose

Y = division 2

1A = general purpose nametag

1B = division 2 nametag

4XXSYC = 6213 IMV (integrated multivariable)

where xx=

01=150"/150#, 02=100"/100#, 03=100"/250#, 04=100"/500#, 05=100"/1000#, 06=250"/250#,
07=250"/500#, 08=250"/1000#, 09=100"/1500#, 10=250"/1500#, 11=150"/1500#, 14=150"/1000#,
15=400"/1500#, 18=150"/250#, 23=150"/100#, 24=250"/100#, 28=250"/150#, 31=400"/250#,
33=150"/500#, 35=400"/1000#, 38=150"/2000#, 39=250"/2000#, 49=160"/100#, 51=160"/600#,
52=160"/1500#, 53=400"/600#

5 option = battery picks are optional (see configurator for options)

6 option = charger picks are optional (see configurator for options)

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11 option = RTD picks are optional (see configurator for options)

50 E = MicroFLO device (no other option available at this time)

1AG = PROM (no other option available at this time)

2EZ = Flash image (standard pick)

2FF = Flash image (AGA-3, Selectable Units)

2FK = Flash image (Selectable Units, Pemex pick)

2EM = Flash image (AGA-3, Crosstex pick)

3CS = Configured as, Single AGA-3 tube (standard pick)

3CU = Configured as, Single V-cone tube

3CA = Configured as, Single AGA-3 tube Enron Support

3DK = Configured as, Single AGA-3 tube (Agave Energy/Yates Petroleum pick)

3DN = Configured as, Single AGA-3 tube, Enron, w/ FS2 Support, (Crosstex pick)

3BQ = Configured as, Single AGA-3 tube (Dynegy Breckenridge pick)

3DJ = Configured as, Single AGA-3 tube (Dynegy Chico pick)

3CO = Configured as, Single AGA-3 tube (Fidelity pick)

3EF = Configured as, Single AGA-3 tube (Pemex pick)

3CN = Configured as, Single AGA-3 tube (Western Gas Midkiff pick)

4AA = No IEC supported on MicroFLO

60E = RS232 interface board with one digital input and output with terminal connector for field wiring

60F = RS485 interface board with one digital input and output with terminal connector for field wiring

Compatibility

- The 6213 MicroFLO is compatible with all 6610 and 6613 castings using a battery smaller than ABB's 26 amp-hour capacity.

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- This upgrade performs AGA-3 gas flow equation and cannot be used to upgrade units performing AGA-7 linear equation.
- One RS-232 or RS-485 remote communications available
- One Digital Input and Digital Output available (no other I/O options)

CB181 Upgrade Path – ABB has offered a CB181 and AMU upgrade kit (66181 upgrade) for several years. This path allows the customer to add features and still accommodate Totalflow's many communication and smart interface boards (50 pin connector). This upgrade also updates the transducer to smart AMU technology used in the 6400/6700 and Xseries models.

Now we offer a new CB181 electronics board designed to make this upgrade path more economical. This upgrade uses a re-designed CB181 electronics board along with our AMU technology. The goal will be to offer the same upgrades as today without some of the unnecessary components and connectors currently found on our CB181 board.



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Re-designed CB181 upgrade available for the 6600 FCU using the 66181 Upgrade kit described below

Model 66181Y-1B-3M-7HFN-22*-23*-9*-20*-21*-4MYC-5**-6**-11**-12xx-13X-14A-15*-16*-24**-17*-18*-19A-27*-28*-60C**

Note: * denotes options available (see options below for proper model number codes)

Typical Model# =66181Y-1B-3M-7HFN-22A-23A-9A-20A-21A-4MYC-5A-6A-11A-12xx-13X-14A-15X-16X-24BA-17X-18X-19A-27X-28A-60C, Price = \$1785 US**

X = general purpose

Y = division 2

1A = general purpose nametag

1B = division 2 nametag

3M = More economical CB181 electronics board (part# 2015382-005)

7HFN- EPROM for CB181 board to support AGA-3 gas orifice equation (many other EPROMs are available, see configurator or discuss with Sales)

22A = 128K RAM

22C = 512K RAM

23A = No FLASH

23B = 512 K FLASH

9A = No communications module in com. 1 slot

9B = RS-485 communications module

9C = RS-232 communications module

20A = No communications module in com. 1 slot

20D = RS-485 communications module

20E = RS-232 communications module

21A = No communications module in com. 1 slot

21B = RS-485 communications module

21C = RS-232 communications module

4XXMYC = XIMV (integrated multivariable)

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5 option = battery picks are optional (see configurator for options)

6 option = charger picks are optional (see configurator for options)

11 option = RTD picks are optional (see configurator for options)

12XX = Without remote communications mounting bracket

13X = Without radio

14A = Without pulse kit option (see configurator for other options)

15X = Without analog output option (see configurator for other options)

16X = Without I/O expandability (see configurator for other options)

24BA = Without expandability EPROM (see configurator for other options)

17X = Without expandability termination board (see configurator for other options)

18X = Unused for CB181 upgrade

19A = Unused option

27X = Without valve options (see configurator for other options)

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28A = Without battery bracket upgrade kit (see configurator for other options)

60C = AMU installation kit, 6610/6613

60D = Pulse input installation kit, 6611/6614

Upgrade Compatibility and Feature Table

Existing Product	Customer's Current Application/Options	Upgrade Option	Advantages
6610 or 6613 Flow Computer	Single tube AGA-3 flow equation	6213 IMV Upgrade Kit	<ul style="list-style-type: none">• New equations (AGA-3, NX-19, AGA-8 gross and detail)• Database 2 only• 2x24 display• New multivariable technology with .075 linearity, repeatability and hysteresis accuracy• Enhanced hardware robustness• Enhanced software features• One DI and DO• One RS-232 or RS-485 communications port
6610, 6611, 6613 or 6614 Flow Computer	Single tube AGA-3 or AGA-7 flow equation and analog output capability	CB181 Upgrade kit	<ul style="list-style-type: none">• New equations• DB1 & DB2• 2x24 display• 50 pin expansion connector• Uses customer's existing Model 6600 2010232 termination board• Uses AMU transducer or XIMV multivariable technology• Enhanced software features. <p>NOTE: Customer would install their existing single or quad AO board on the CB181 board.</p>

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Existing Product	Customer's Current Application/Options	Upgrade Option	Advantages
6610, 6611, 6613 or 6614 Flow Computer	Single tube AGA-3 or AGA-7 flow equation with valve control, I/O expandability, plunger or other custom application	CB181 Upgrade kit	<ul style="list-style-type: none">• New equations• DB1 & DB2• 2x24 display• 50 pin expansion connector• Uses customer's existing Model 6600 2010232 termination board• Uses AMU transducer technology• Enhanced software features. <p>NOTE: Customer would install their existing Expanded I/O interface on the CB181 board.</p>

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