FLEXPAK 3000 Retrofit

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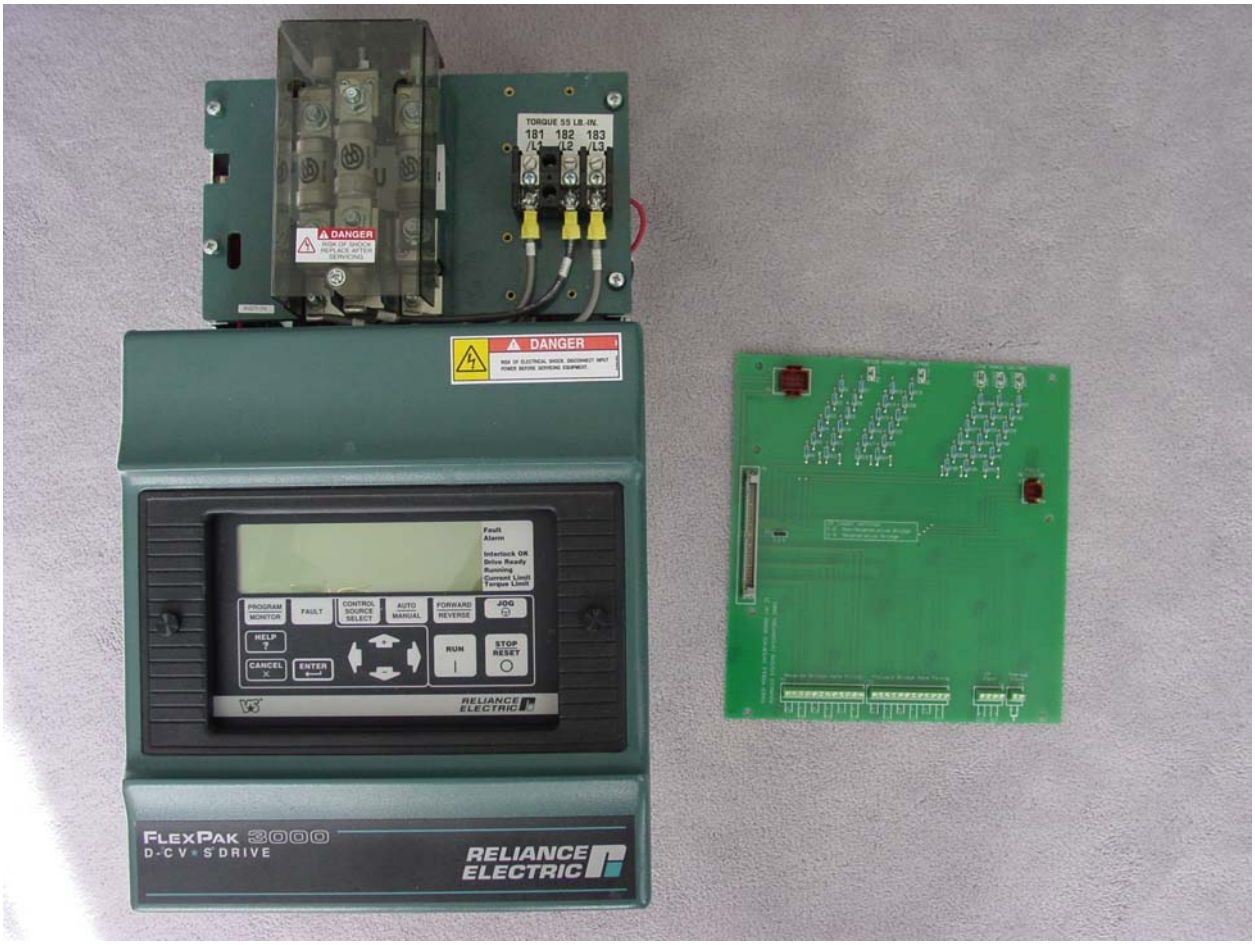
FLEXPAK 3000 tm Reliance Electric

The FLEXPAK 3000 Retrofit board is designed to work with an off-the-shelf RELIANCE ELECTRIC FLEXPAK MN-3FN4042 and an external SCR bridge assembly.

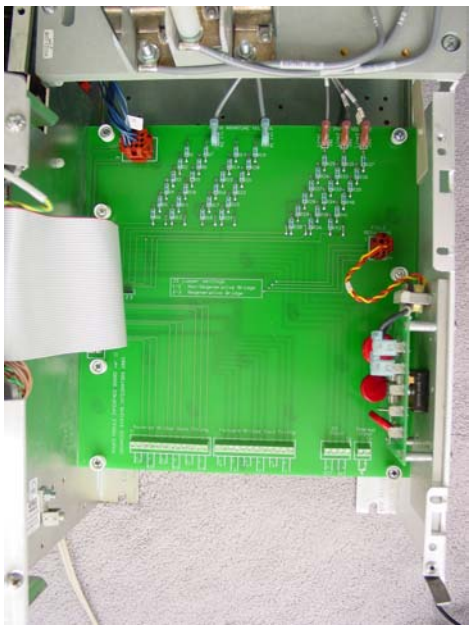
It is an ideal solution for older systems using analog motor drives with working external SCR assemblies. This upgrade reduces the cost of upgrading to a digital system by re-using existing SCR bridges. The retrofit works with both non-regenerative and regenerative SCR bridges.



The upgrade shares the same features as a complete FLEXPAK 3000 drive.

These features include:

- **Simplicity**
- **Flexibility**
- **Reliability**
- **Compact (not including the external SCR package)**
- **CSA special inspection.**
- **Many communication options**
- **230/460/600VAC operation**
- **250/500/700VDC outputs respectively**
- **Handles up to 1700Amps / 750VDC.**

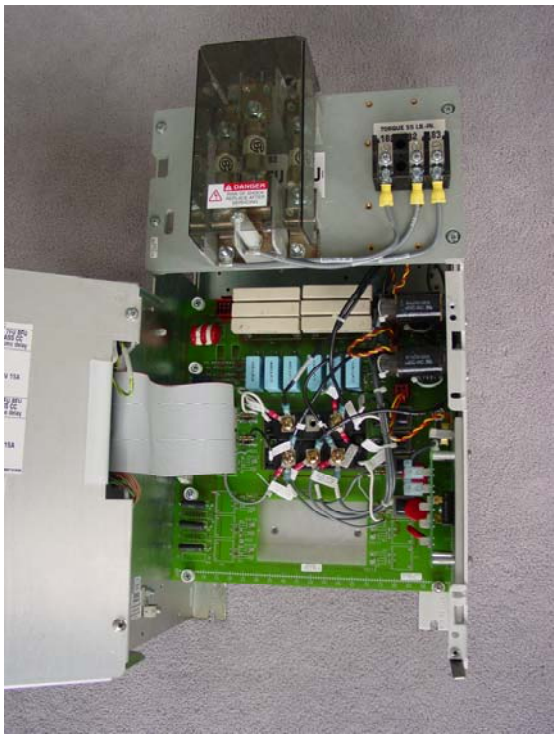


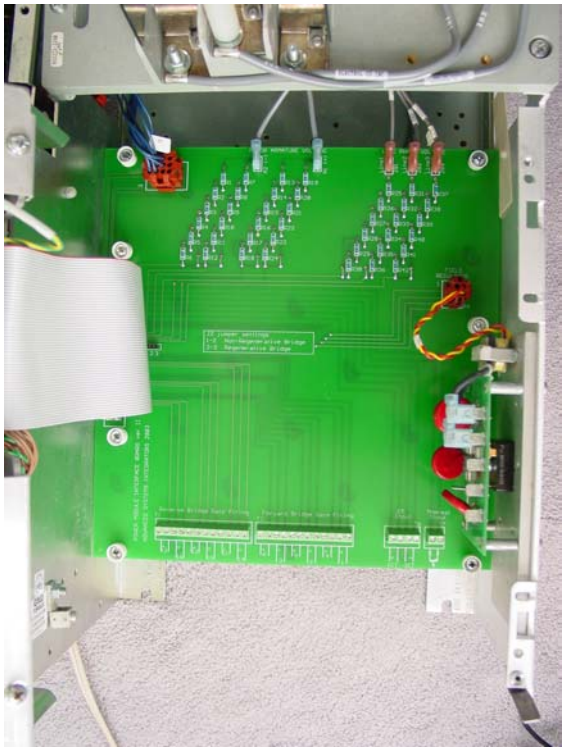
A parallel gate firing option is under development and will be available in the near future allowing the interface board to handle parallel SCR bridges.

Further standard Flexpak details can be found in the Reliance Electric “Drives Catalog”.

INSTALATION:

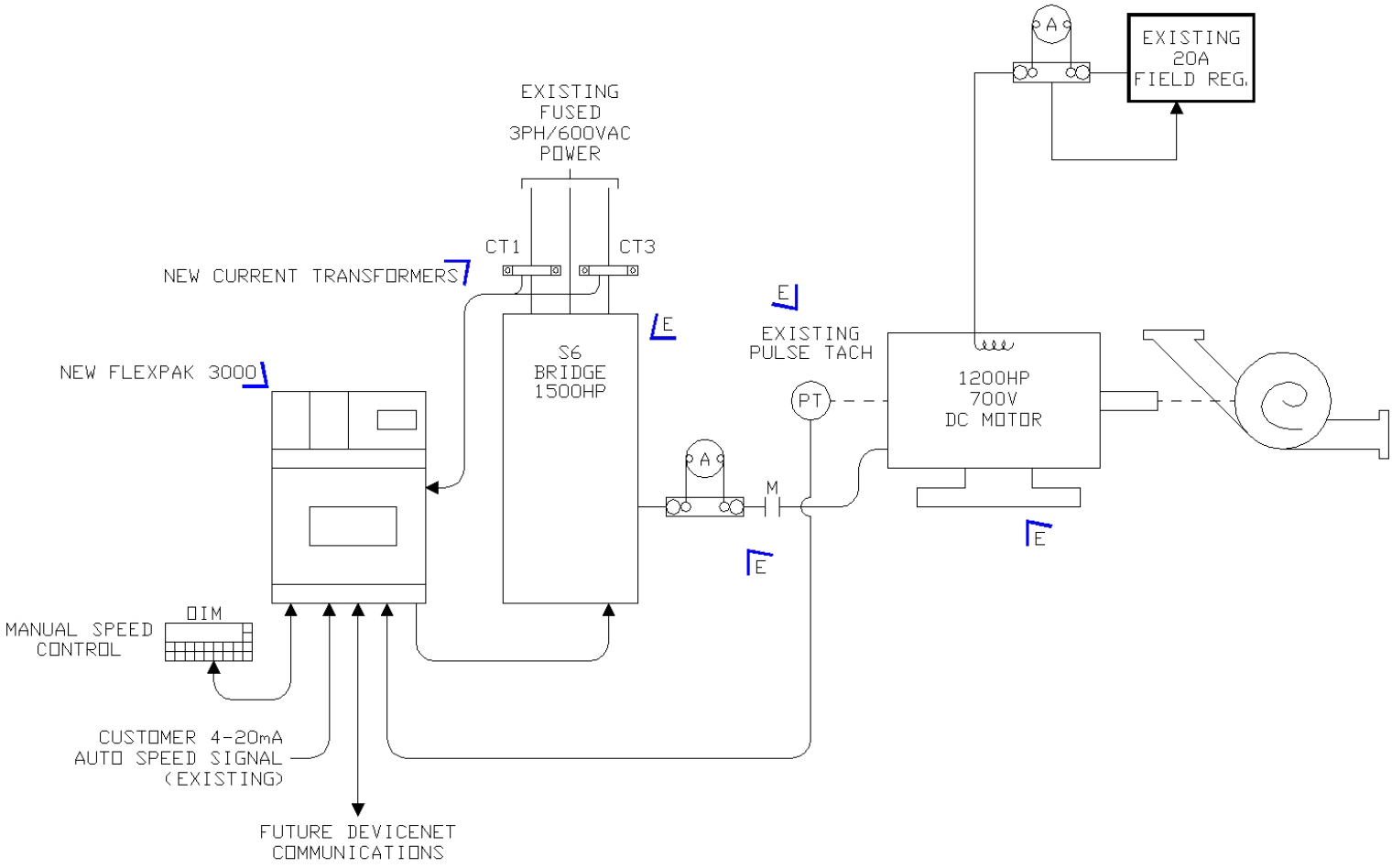
The installation of the Retrofit board is relatively simple. The firing board and SCR assembly from the 3FN4042 drive is removed. Minimal modifications to the original wiring are required.





PROJECTS CURRENTLY USING RETROFIT INTERFACES

Greater Vancouver Regional District, Iona Island, BC, sewage treatment plant is using stand-alone 600VAC drive systems with a 4-20mA speed reference and hardwired digital contacts from an existing Allen Bradley PLC5.



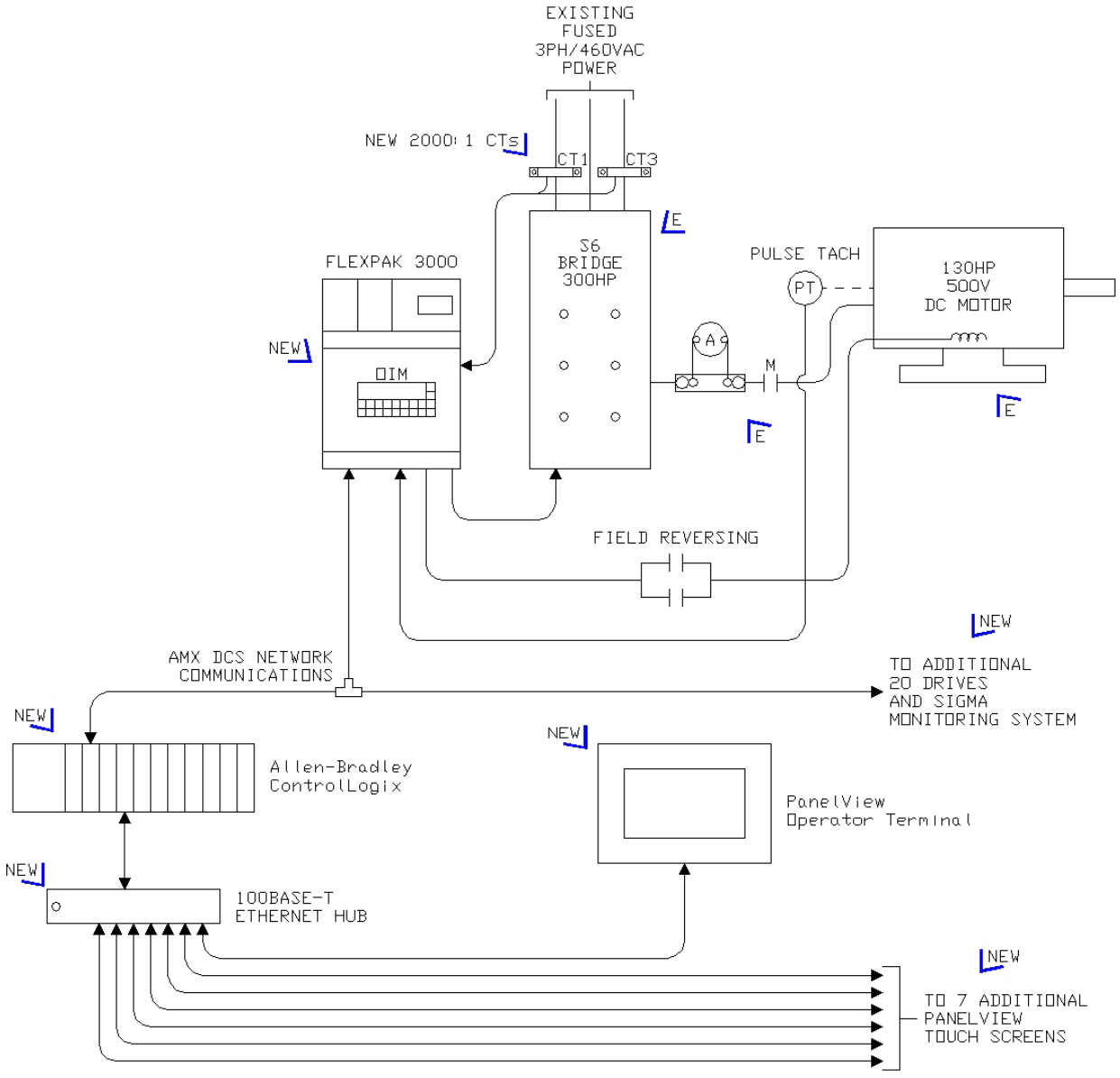
Greater Vancouver Regional District, Cape Horn Municipal Drinking Water Pumping Station, BC is using stand-alone 600VAC input drive systems with a 4-20mA speed reference and hardwired digital contacts from an existing Allen Bradley PLC5. This system retrofits existing obsolete Ross Hill controls but utilizes the existing power conversion SCR's.

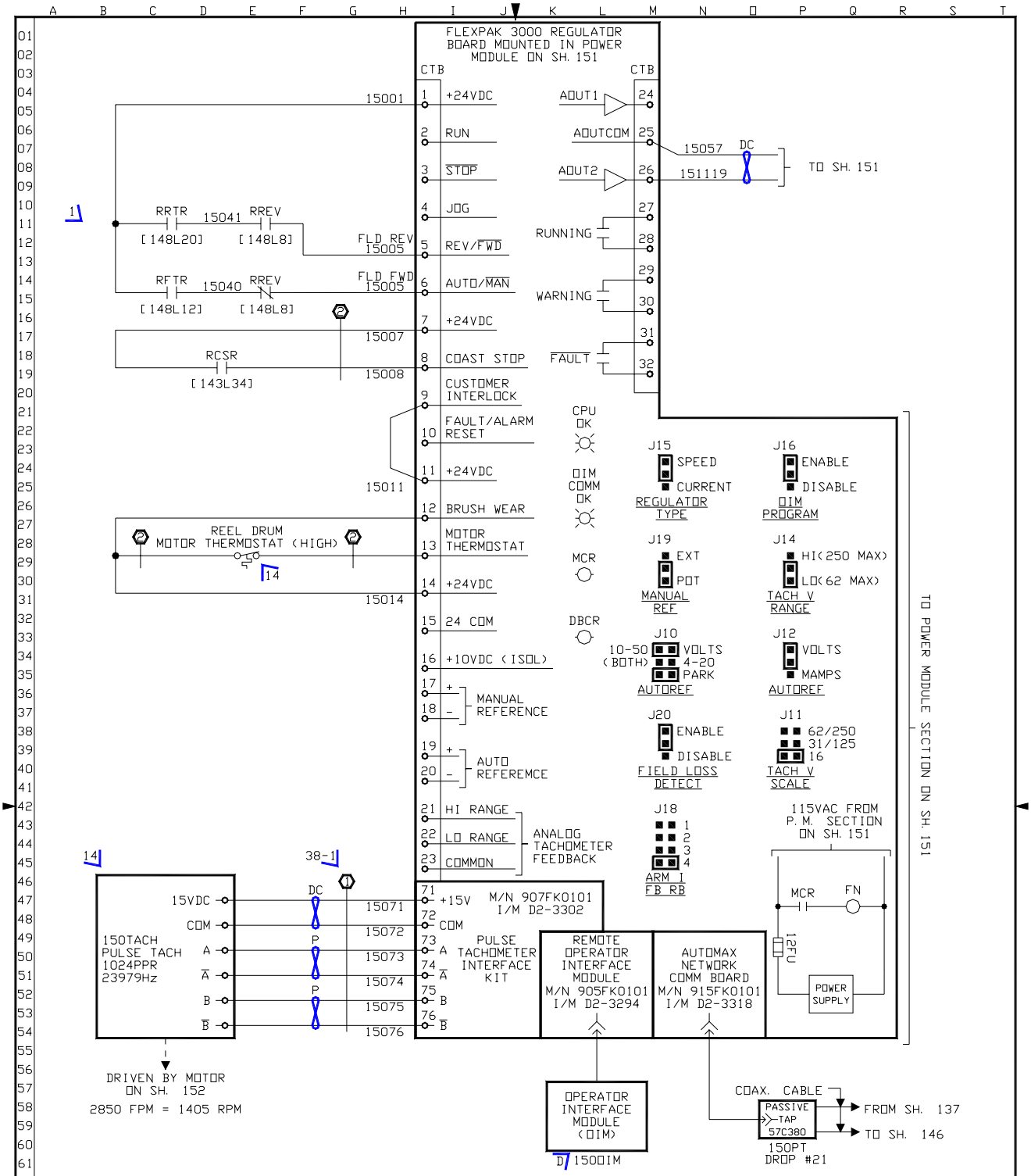
Tembec, Pine Falls MB, is using the Flexpak conversion on their #1 PM Press section retrofitting old Reliance Maxline drives. The reference is from the existing analog speed reference and utilizes the existing load share potentiometers to adjust load between the top and bottom Press motors. The system allowed splitting of existing parallel SCR bridges to give independent armature control to each motor, with more precise speed matching and load share.

Potlatch, Lewiston Idaho, is using the Flexpak conversion on all the drives for the 2L Tissue machine. The SCR bridges were existing Reliance manufacture. The Master Set-point was originally Reliance Automax but subsequently converted to the Rockwell Control Logix platform. This demonstrated the ease of migrating the drives to more up-to-date PLC's by other vendors.

Domtar, Vancouver Paper Mill uses a more elaborate upgrade that includes:

- Allen-Bradley ControlLogix as the main controller for the entire paper machine.
- Eight PanelView touch screens for the operator terminals.
- 100base-T Ethernet hub to communicate between the Panelviews and the ControlLogix
- Sixteen Retrofit Flexpak 3000 drives complete with field reversing.
- Three standard Flexpak 3000 drives.
- Two GV3000 AC drives.





PART NO. - 3FN4042
151PM IS MOD BY
W/E - 775332
SH. - 150

A SHOP NOTE: SUPPLY 691-UM L/P MTD. NEAR ORIGINAL N/P.

- ☒ (J10) MOVE TO VOLTS
- ☐ (J10) MOVE TO 4-20
- ☒ (J10) MOVE TO PARK
- ☐ (J11) MOVE TO 62/250
- ☐ (J11) MOVE TO 31/125
- ☒ (J11) MOVE TO 16
- ☐ (J12) MOVE TO VOLTS
- ☐ (J12) MOVE TO MAMPS
- ☐ (J14) MOVE TO HI(250 MAX)
- ☒ (J14) MOVE TO LO(62 MAX)
- ☒ (J15) MOVE TO SPEED
- ☐ (J15) MOVE TO CURRENT
- ☒ (J16) MOVE TO ENABLE
- ☐ (J16) MOVE TO DISABLE

- ☐ M/N 902FK0??1 BLOWER MOTOR STARTER (I/M D2-3295)
- ☐ (J18) MOVE TO 1
- ☐ (J18) MOVE TO 2
- ☐ (J18) MOVE TO 3
- ☒ (J18) MOVE TO 4
- ☐ (J19) MOVE TO EXT
- ☒ (J19) MOVE TO POT
- ☒ (J20) MOVE TO ENABLE
- ☐ (J20) MOVE TO DISABLE

(J21) ENHANCED FIELD BOARD

- ☐ (J21) MOVE TO A-C
- ☐ (J21) MOVE TO B-C

- ☐ M/N 907FK0301 A-C TACHOMETER INTERFACE KIT (I/M D2-3297)
- ☒ M/N 915FK0101 AUTOMAX NETWORK COMMUNICATION BOARD (I/M D2-3318)
- ☐ M/N 914FK0101 I/O EXPANSION BOARD (I/M D2-3301)
- ☒ M/N 905FK0101 OIM REMOTE MOUNTING (I/M D2-3294)
- ☒ M/N 907FK0101 PULSE TACHOMETER INTERFACE KIT (I/M D2-3302)

- ☐ M/N 904FK0101 NEMA 1 CONVERSION KIT (I/M D2-3299)
- ☐ REMOVE JUMPER FROM 3-4 ON FLEXPAK 3000 FIELD/DB TB
- ☐ M/N 915FK1100 DEVICENET COMM BOARD (I/M HE-FP3)

DATE	BY	(RE)ISSUE
19 FEB 03	GW	FLD REV <1
19 DEC 02	GW	FOR CONSTRUCTION

LAST REV : 19 FEB 03
CREATE : 31-OCT-02
ENGINEER : GW
DRAWN BY : BT
CHECK BY :
PRINTED IN CANADA

ADVANCED SYSTEMS INTEGRATORS

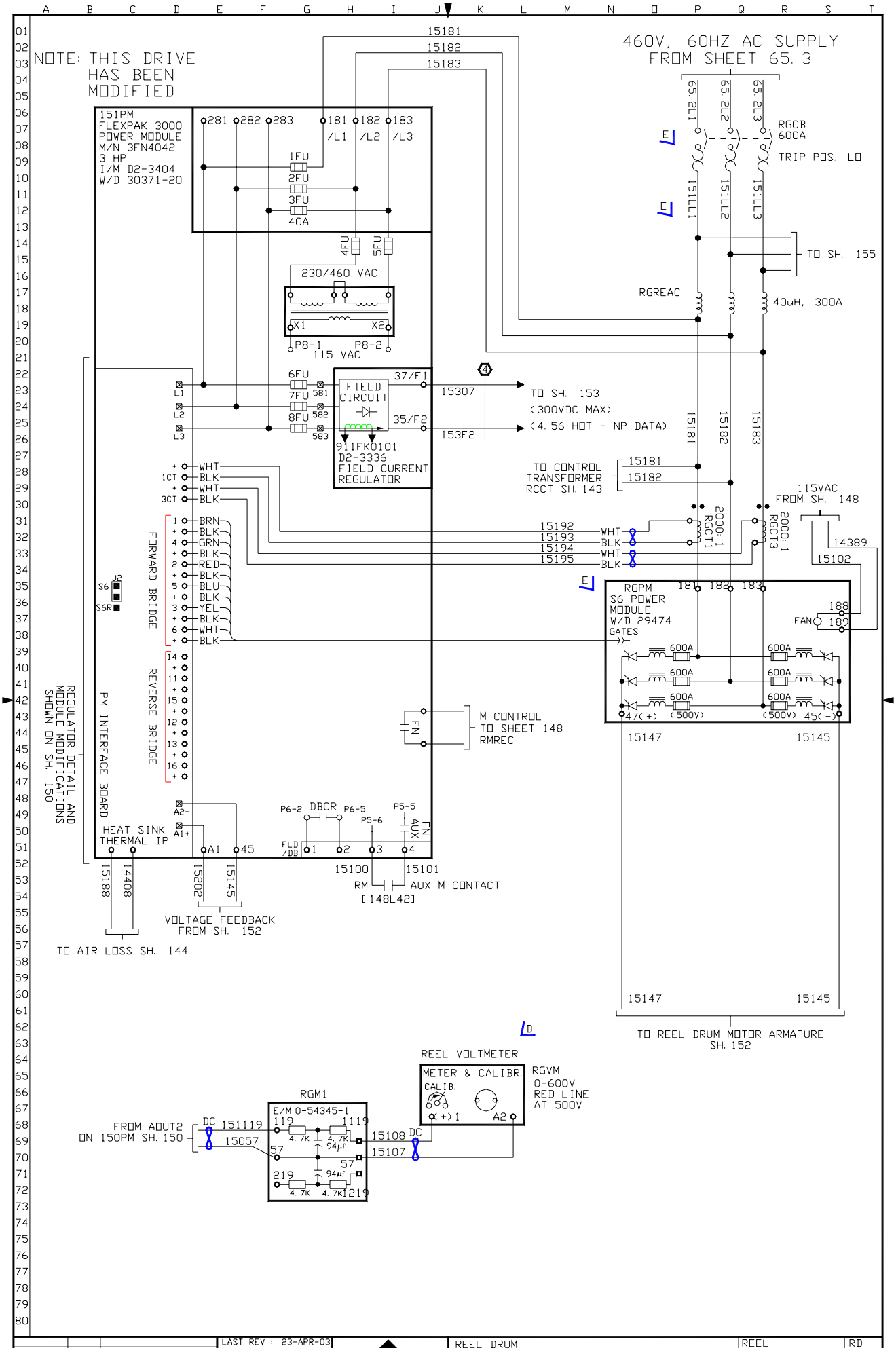
REEL DRUM REGULATOR BOARD

SYSTEM 17QT 775332

ELEMENTARY DIAGRAM W/E 775332

REEL RD
17QT

SHEET 150



DATE	BY	(RE)ISSUE
23-APR-03	JW	TEMPLATE REVISED
19 FEB 03	GW	SST PWR FEED CHANGE
19 DEC 02	GW	FOR CONSTRUCTION

LAST REV : 23-APR-03
CREATE : 31-OCT-02
ENGINEER : GW
DRAWN BY : BT
CHECK BY :
PRINTED IN CANADA

ADVANCED SYSTEMS INTEGRATORS

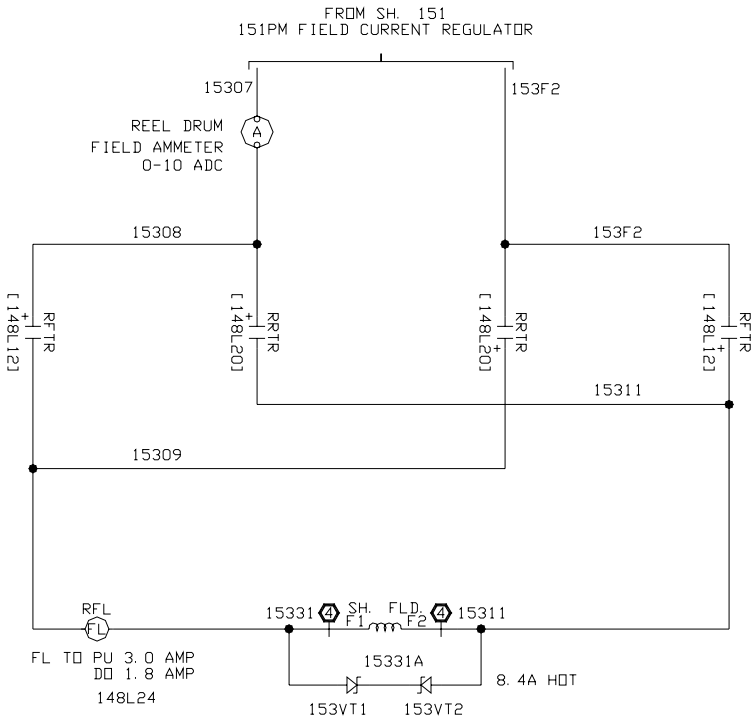
REEL DRUM POWER MODULE

SYSTEM 17QT 775332

ELEMENTARY DIAGRAM W/E 775332

REEL RD
17QT

SHEET 151



DATE	BY	
19 FEB 03	GW	KNIFE SW REMOVED
19 DEC 02	GW	FOR CONSTRUCTION
		(RE)ISSUE

LAST REV : 19 FEB 03
CREATE : 31-OCT-02
ENGINEER : GW
DRAWN BY : BT
CHECK BY :
PRINTED IN CANADA

ADVANCED SYSTEMS INTEGRATORS

REEL DRUM
DC FIELD

REEL RD
17QT

SYSTEM 17QT 775332

ELEMENTARY DIAGRAM W/E 775332

SHEET 153

Domtar – Obsolete DC Drive

Domtar – Flexpak 3000 drives
(Left: Standard Flexpak 3000 drive for Spool Starter.)
(Right: Retrofitted Flexpak 3000 drive for Reel Drum.)
(Top Right: Contactors for Field Reversing.)

Obsolete reduced starting voltage resistor bank

Domtar – Reused SCR bridge.

Domtar – Obsolete relays, fuses, and transformers.