



CONTROL WIRING DIAGRAM

Gas engine control

E3 Full Authority System 9908-419
E3 Fuel Blending System 9906-720

REVISION HISTORY			
REV	DESCRIPTION	DATE	APPROVED
NEW	EC 1134783	March 2010	ESPLIN
A	EC 1134783-1	April 2011	ESPLIN
B	EC 1184292	OCT 2013	AZIMEN

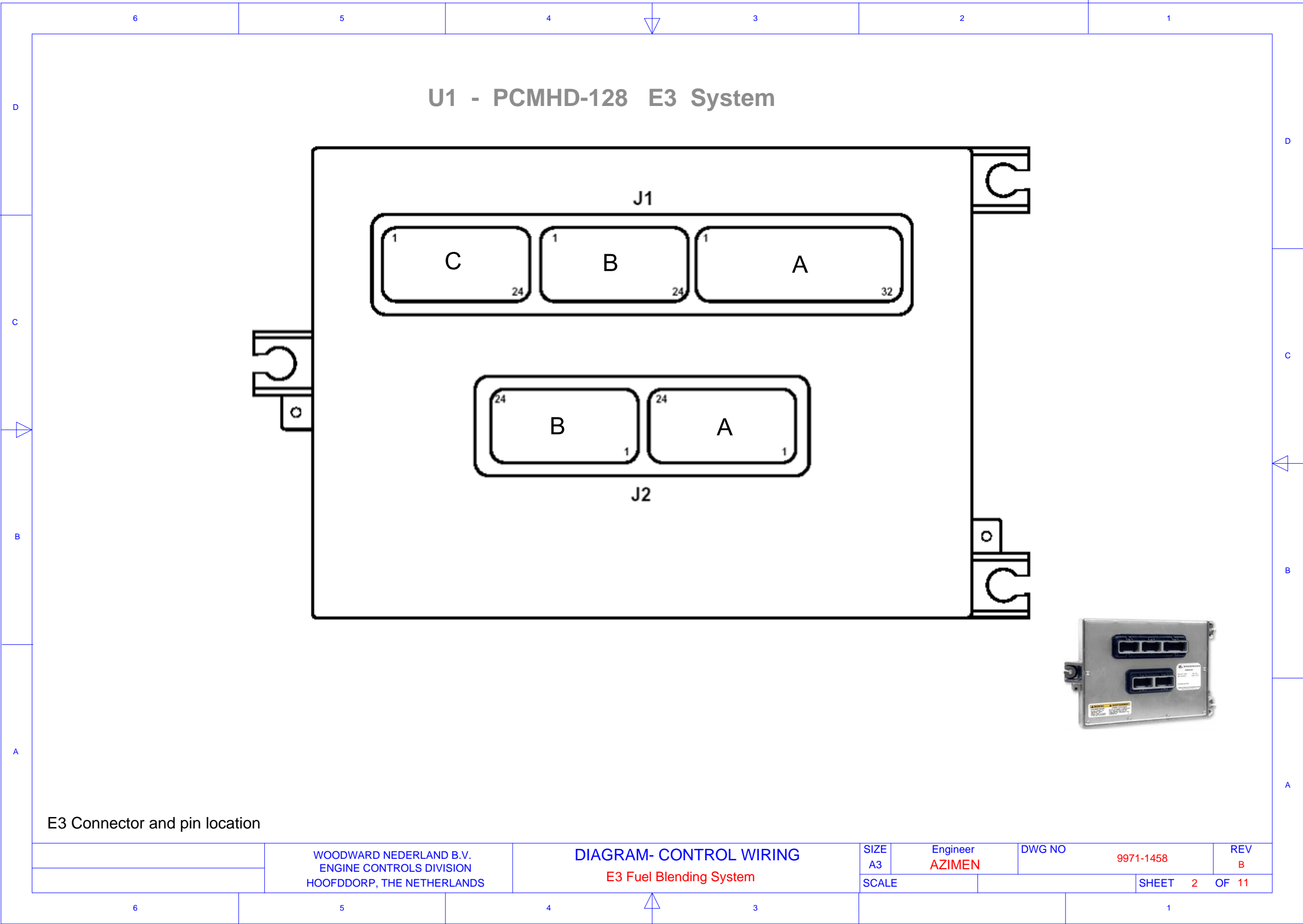
Index

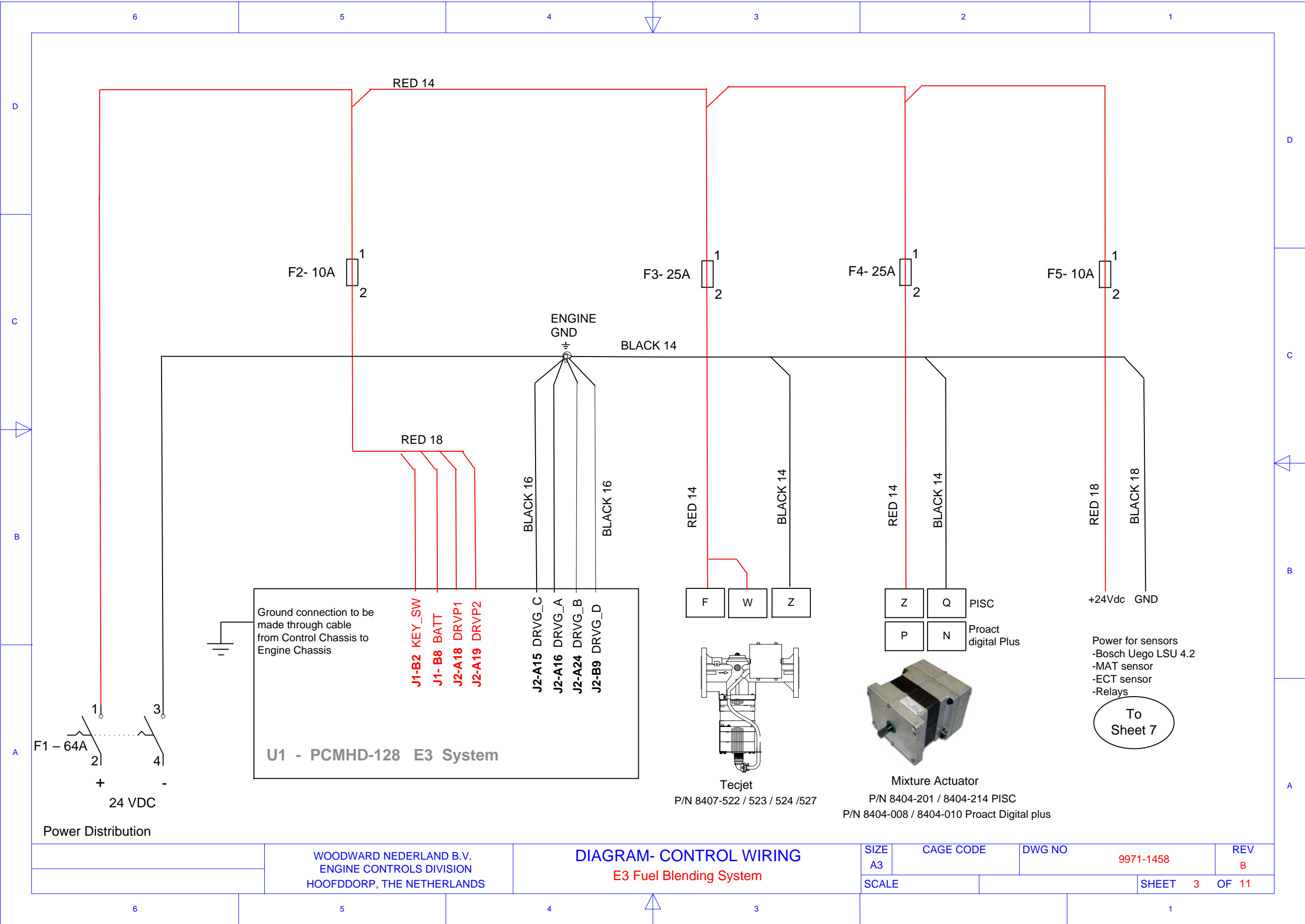
- Sheet 1 Info
- Sheet 2 E3 Connector and pin location
- Sheet 3 Power Distribution
- Sheet 4 Discrete inputs
- Sheet 5 Analog / Sensor Inputs
- Sheet 6 Communications (CAN / Serial) / Mixture Actuator / By-pass Valve
- Sheet 7 Relay Outputs / MAT sensor / Bosch Uego sensor
- Sheet 8 Overview CAN bus (on engine)
- Sheet 9 CAN link Dual Tecjet / Fuel blending
- Sheet 10 Mixture Throttle Actuator
- Sheet 11 EasyGen Connections

WOODWARD NEDERLAND B.V.
ENGINE CONTROLS DIVISION
HOOFDDORP, THE NETHERLANDS

DIAGRAM- CONTROL WIRING
E3 Fuel Blending System

SIZE A3	Engineer AZIMEN	DWG NO 9971-1458	REV B
SCALE		SHEET 1	OF 11

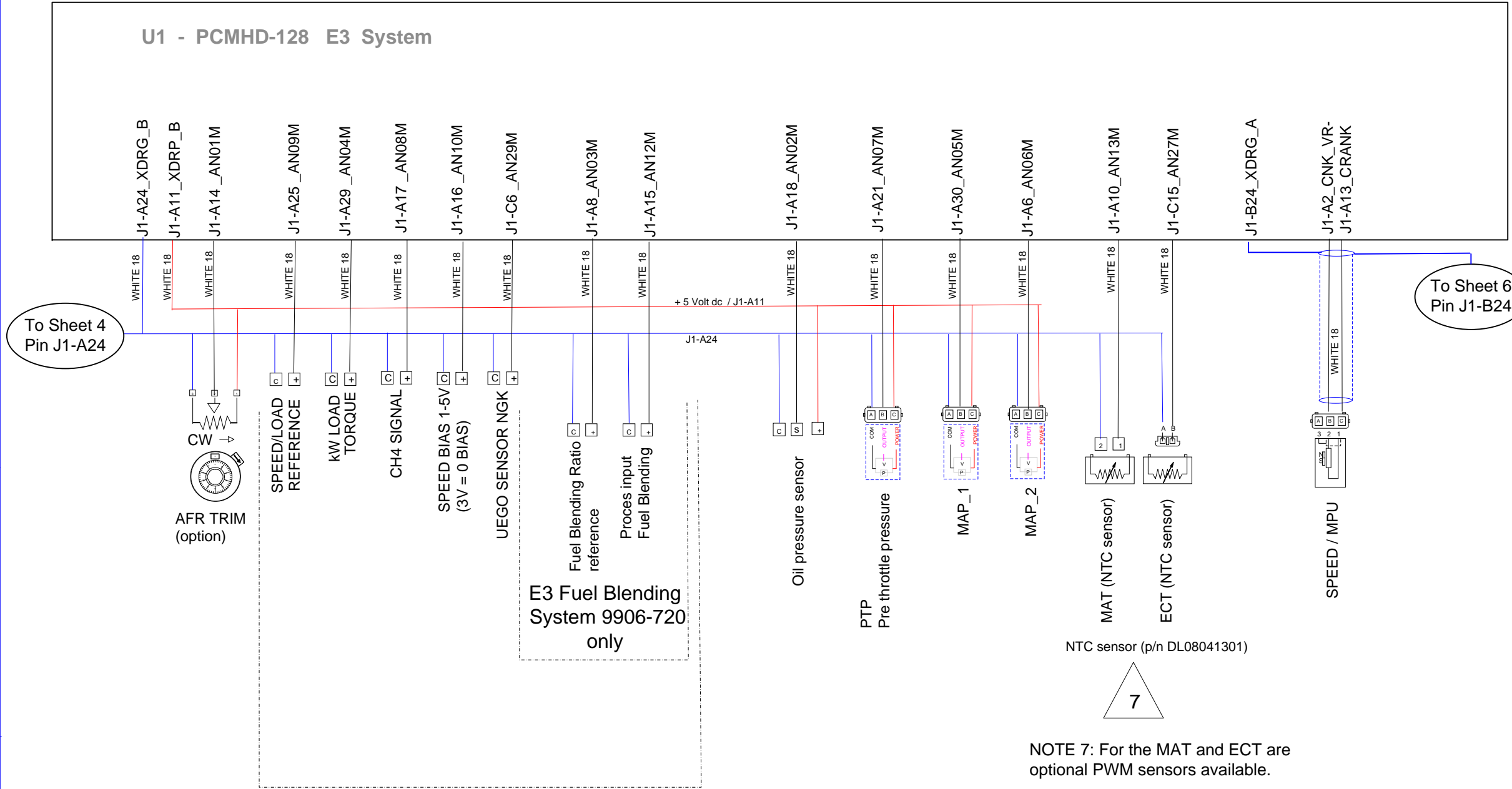




WOODWARD NEDERLAND B.V.
ENGINE CONTROLS DIVISION
HOOFDDORP, THE NETHERLANDS

DIAGRAM- CONTROL WIRING
E3 Fuel Blending System

SIZE A3	CAGE CODE	DWG NO 9971-1458	REV B
SCALE		SHEET 3 OF 11	

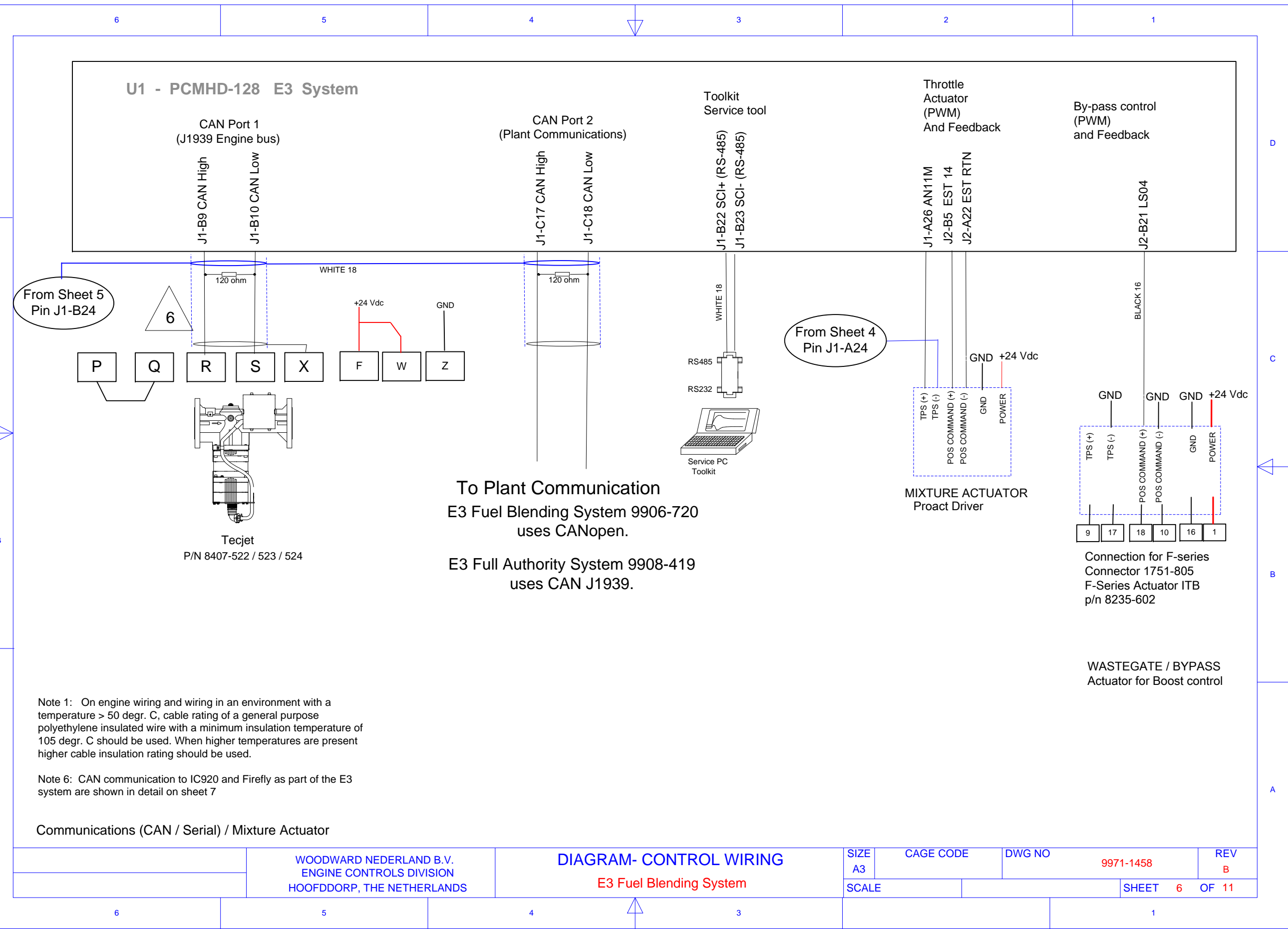


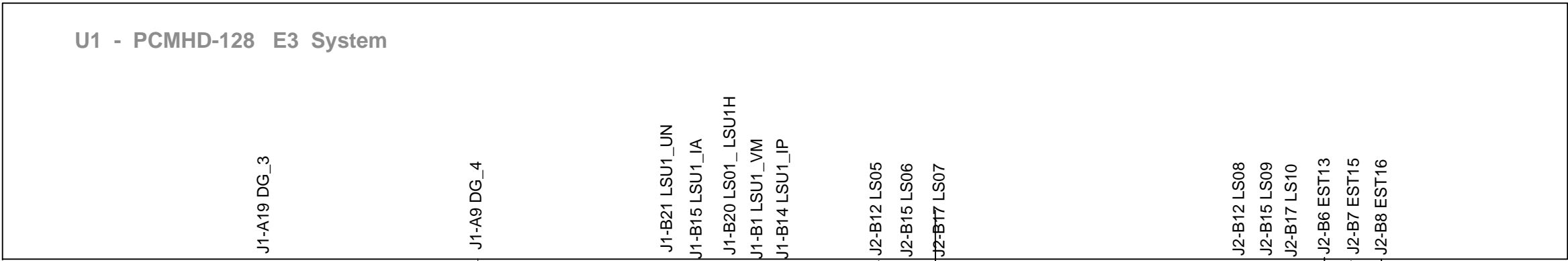
Analog / Sensor Inputs

WOODWARD NEDERLAND B.V.
ENGINE CONTROLS DIVISION
HOOFDDORP, THE NETHERLANDS

DIAGRAM- CONTROL WIRING
E3 Fuel Blending System

SIZE A3	CAGE CODE	DWG NO 9971-1458	REV B
SCALE		SHEET 5 OF 11	

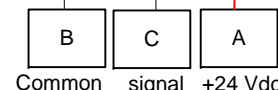




+ 24Volt RED 18

GND BLACK 18

From Sheet 3

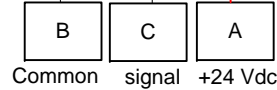


MAT
Manifold Temperature
sensor
(PWM)
(p/n 1689-1117)
131-0784

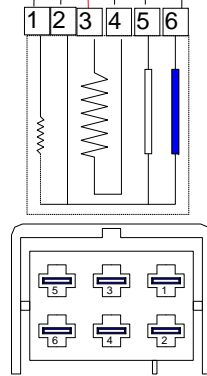


NOTE 7: For the MAT and ECT are optional PWM sensors available.

See sheet 5 and 7 for all MAT / ECT sensors options.



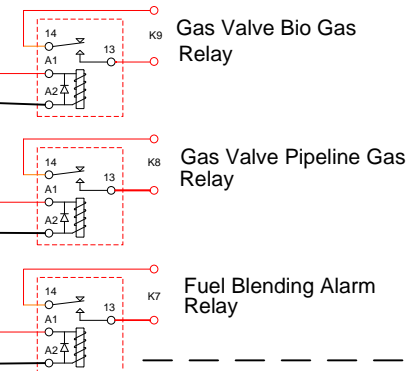
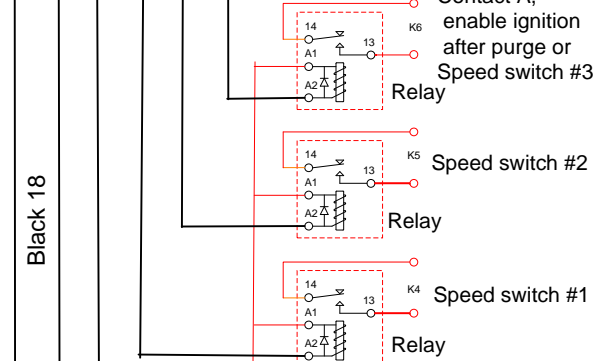
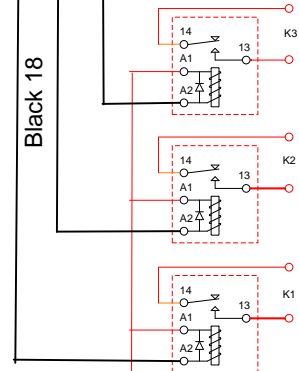
ECT
Coolant Temperature
sensor
(PWM)
(p/n 1689-1117)
131-0784



UEGO Bosch LSU Sensor
(Optional)

Bosch sensor: 1689-1032
Mating connector kit: 8923-1178

thread M18 x 1.5



E3 Fuel Blending System 9906-720 only

MAT sensor / Uego sensor / Relays

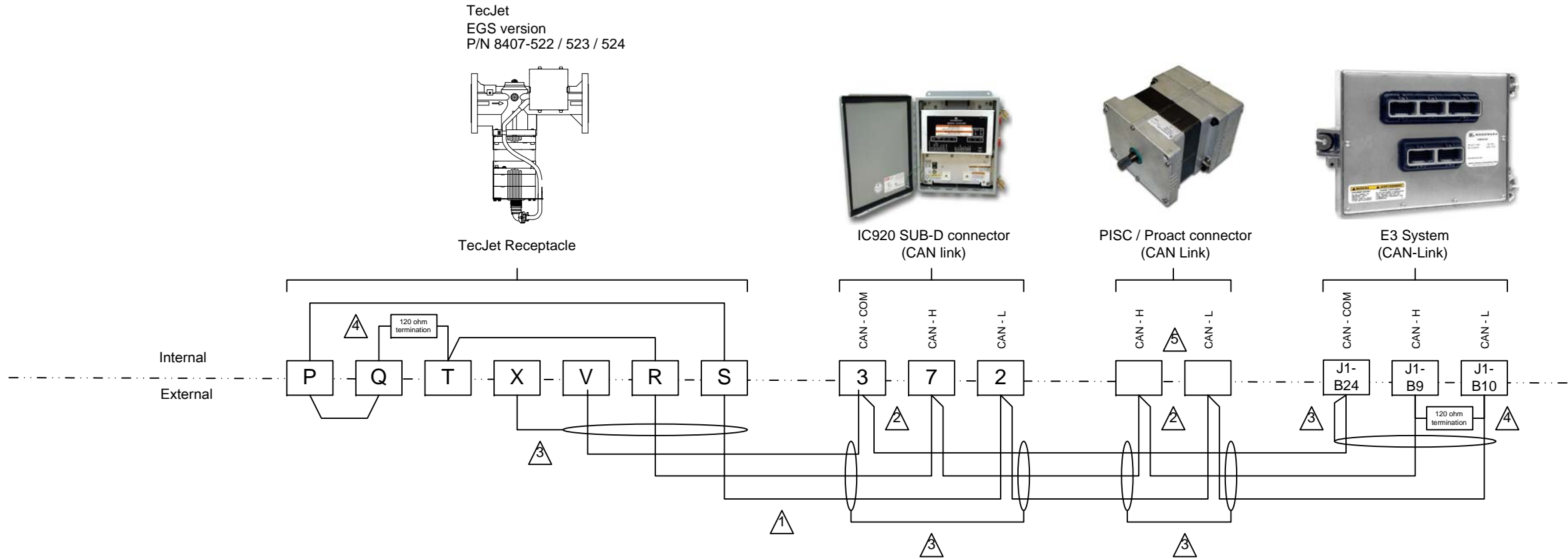
WOODWARD NEDERLAND B.V.
ENGINE CONTROLS DIVISION
HOOFDDORP, THE NETHERLANDS

DIAGRAM- CONTROL WIRING

E3 Fuel Blending System

SIZE A3	CAGE CODE	DWG NO 9971-1458	REV B
SCALE		SHEET 7 OF 11	

Note 1: Cable per ISO 11898-2:
Maximum length of 40 mtr. For the J1939 on 250 Kbps.
Ends of the network need to be terminated with 120 ohm resistors
Nominal resistance of line is 70 mohm/m
Nominal specific propagation delay of 5 ns/m.
Note 2: Maximum lenth of drop line length of 1 mtr at 250 Kbps
Note 3: Shielding only to be connected to Tecjet and EGS sides. The shielding needs to be continued through.
Note 4: Termination resistor on Tecjet side is mounted inside Tecjet. Only a jumper needs to be installed to make the termination active.
Note 5: See next page for wiring of Proact / PISC actuator or manual 26112 and 26246.



CAN LINK

WOODWARD NEDERLAND B.V.
ENGINE CONTROLS DIVISION
HOOFDDORP, THE NETHERLANDS

DIAGRAM- CONTROL WIRING
E3 Fuel Blending System – CAN LINK

SIZE A3	CAGE CODE	DWG NO 9971-1458	REV B
SCALE		SHEET 8	OF 11

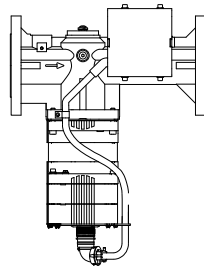
Note 1: Cable per ISO 11898-2:
Maximum length of 40 mtr. For the J1939 on 250 Kbps.
Ends of the network need to be terminated with 120 ohm resistors
Nominal resistance of line is 70 mohm/m
Nominal specific propagation delay of 5 ns/m.
Note 2: Maximum lenth of drop line length of 1 mtr at 250 Kbps
Note 3: Shielding only to be connected to Tecjet and EGS sides. The shielding needs to be continued through.
Note 4: Termination resistor on Tecjet side is mounted inside Tecjet. Only a jumper needs to be installed to make the termination active.
Note 5: The 2nd Tecjet needs a jumper between terminal H and J to select it's unique CAN_ID node.

Dual Tecjet / Fuel Blending

For Fuel Blending Tecjet # 1 is for Pipeline-gas
For Fuel Blending Tecjet # 2 is for Bio-gas

TecJet #1

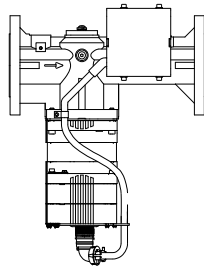
EGS version
P/N 8407-522 / 523 / 524



TecJet Receptacle

TecJet #2

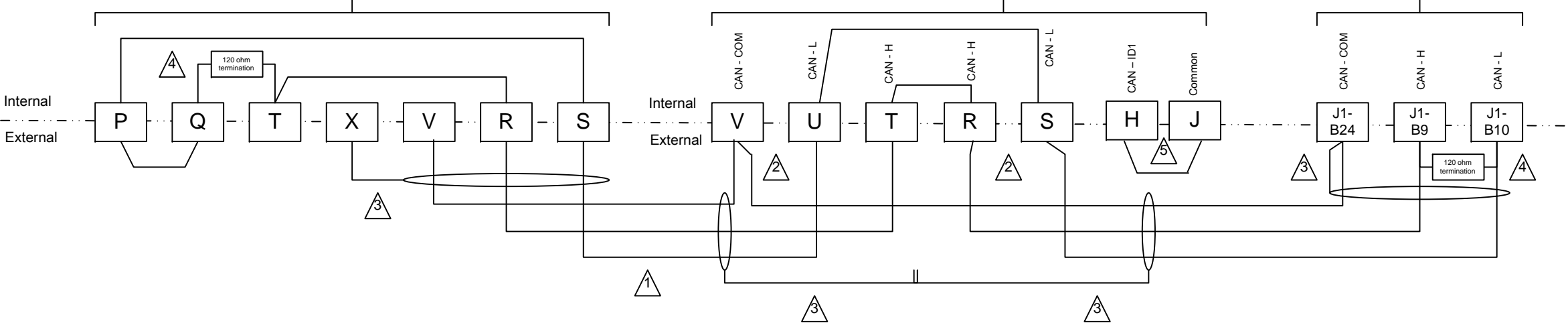
EGS version
P/N 8407-522 / 523 / 524



TecJet Receptacle



E3 System
(CAN-Link)

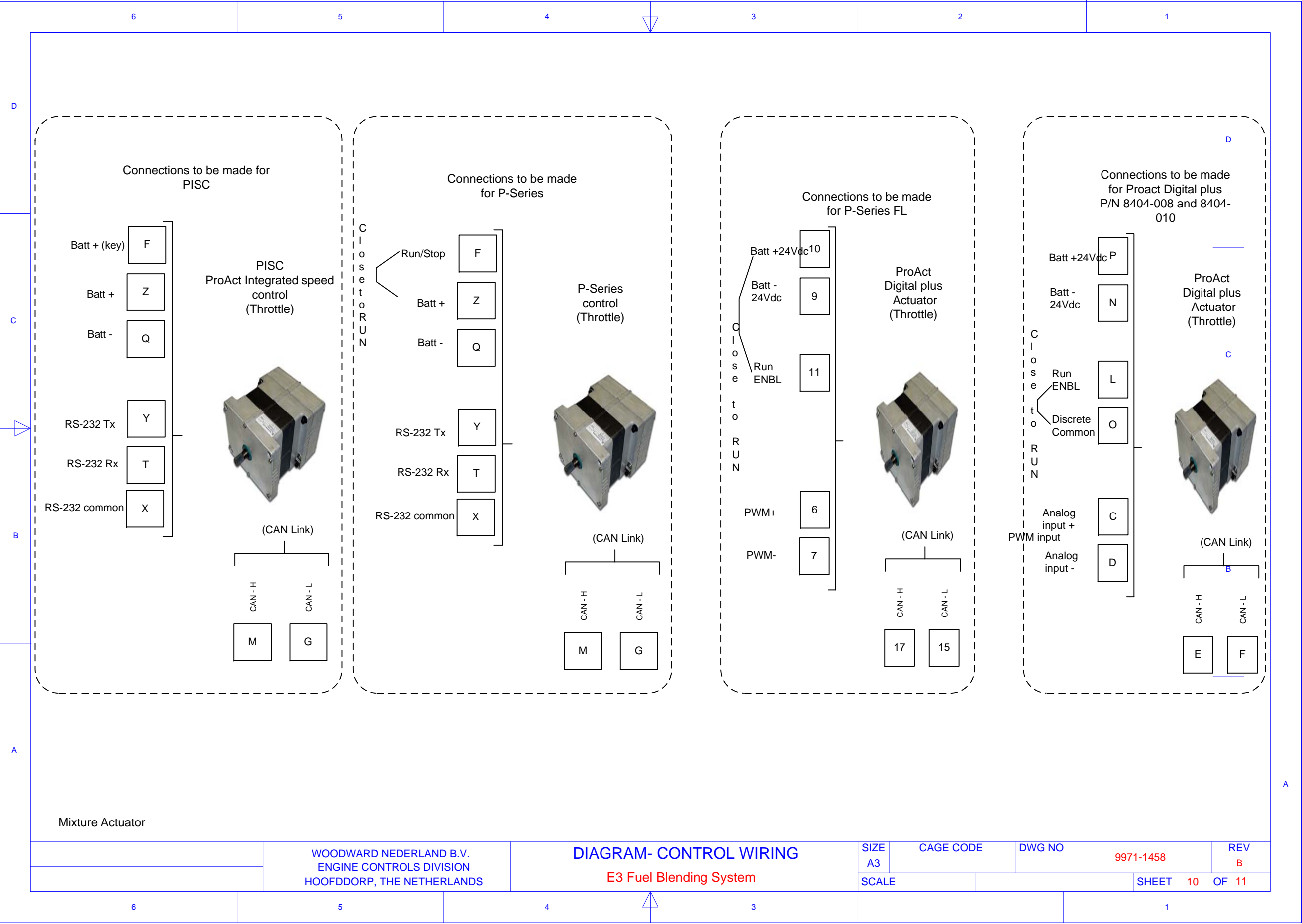


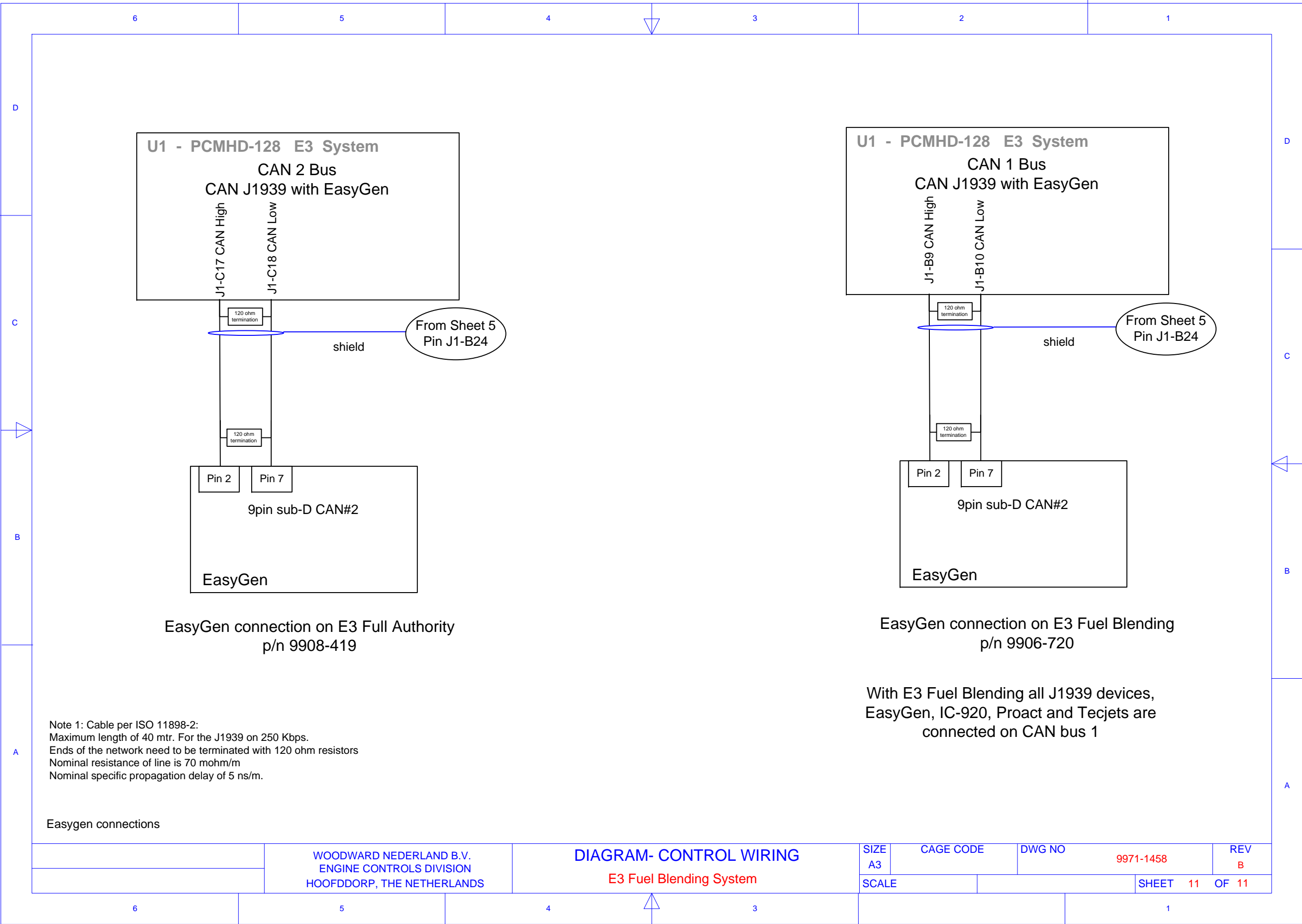
Dual Tecjet / Fuel Blending

WOODWARD NEDERLAND B.V.
ENGINE CONTROLS DIVISION
HOOFDDORP, THE NETHERLANDS

DIAGRAM- CONTROL WIRING
E3 Fuel Blending System – CAN LINK

SIZE A3	CAGE CODE	DWG NO 9971-1458	REV B
SCALE		SHEET 9	OF 11





Note 1: Cable per ISO 11898-2:
Maximum length of 40 mtr. For the J1939 on 250 Kbps.
Ends of the network need to be terminated with 120 ohm resistors
Nominal resistance of line is 70 mohm/m
Nominal specific propagation delay of 5 ns/m.

Easygen connections

WOODWARD NEDERLAND B.V.
ENGINE CONTROLS DIVISION
HOOFDDORP, THE NETHERLANDS

DIAGRAM- CONTROL WIRING
E3 Fuel Blending System

SIZE
A3
SCALE

CAGE CODE

DWG NO
9971-1458

REV
B

SHEET 11 OF 11

6

5

4

3

2

1

With E3 Fuel Blending all J1939 devices, EasyGen, IC-920, Proact and Tecjets are connected on CAN bus 1