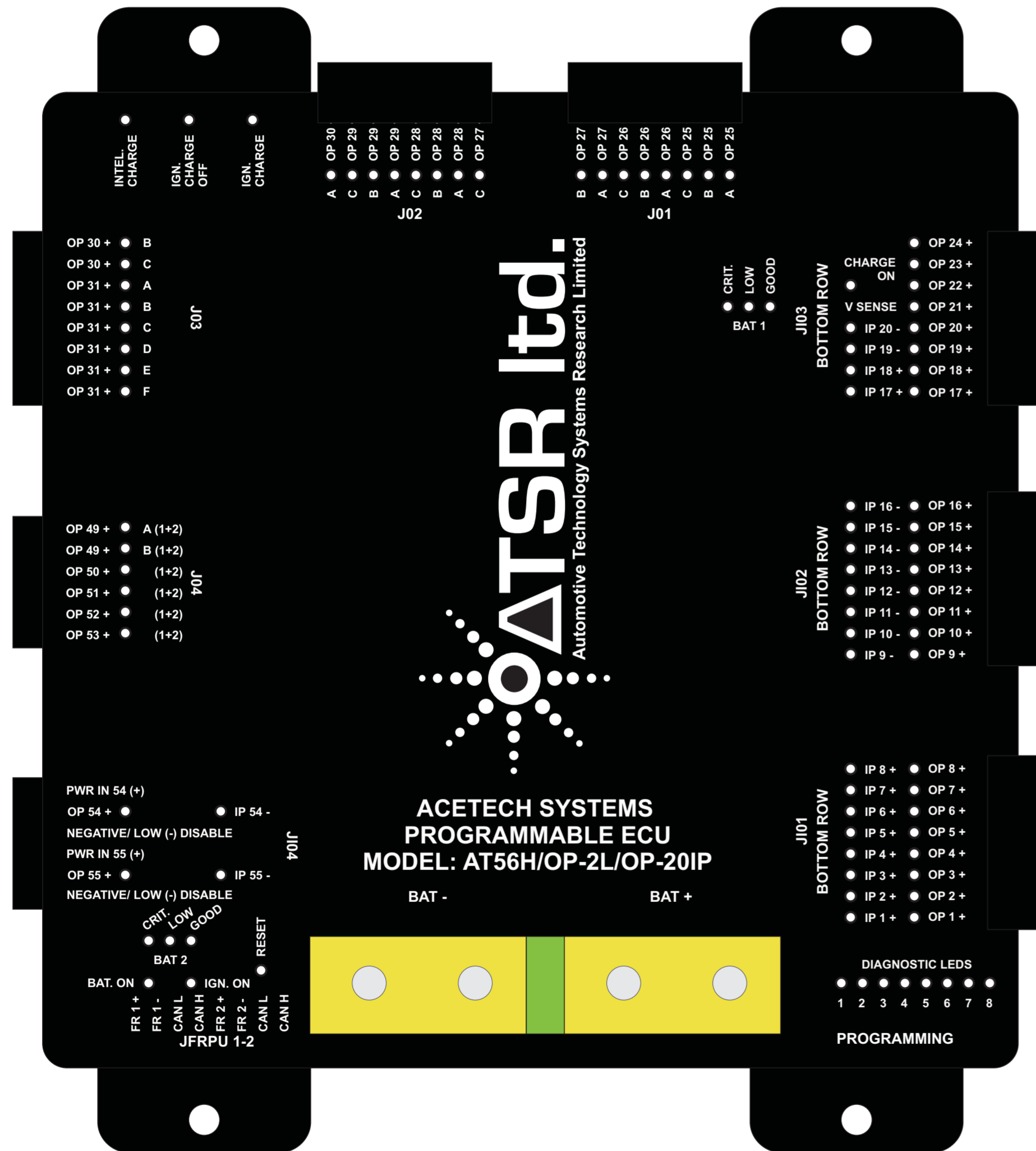


ACETECH SYSTEMS PROGRAMMABLE ECU MODEL AT 56H/OP-2L/OP-20IP

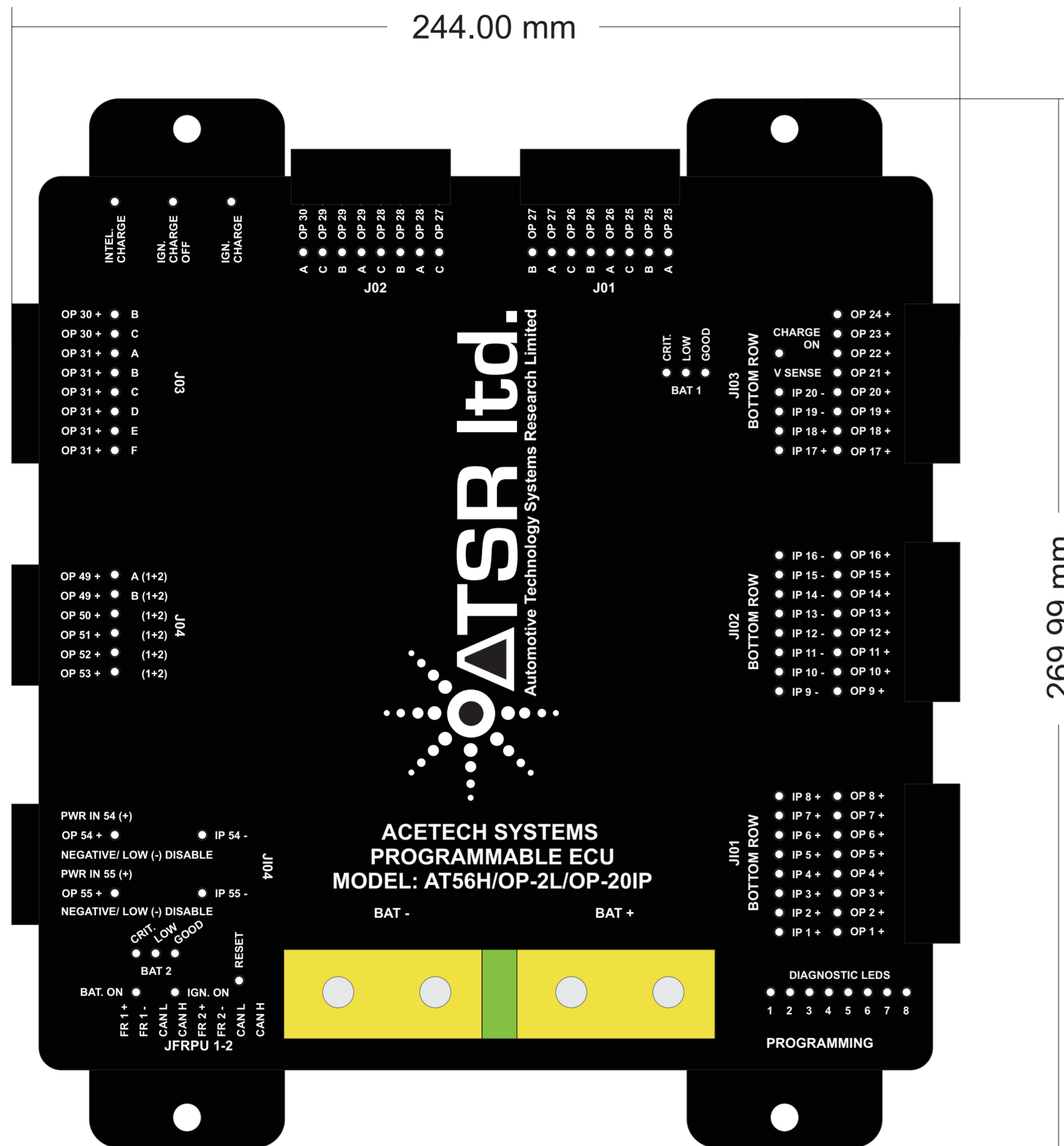


SPECIFICATION:

COMMUNICATION PROTOCOL: CAN J1939 (ISO 11898)
OPERATING VOLTAGE: 10 - 30 VDC (NEGATIVE GROUND / EARTH)
SWITCHED HIGH OUTPUTS: 24 X 15 AMP
SWITCHED GROUPED HIGH OUTPUTS: 24 X 15 AMP (7 GROUPS)
6 No. SPECIAL OUTPUTS FOR CONTROL OF HIGH LEVEL LIGHTS / TRAILER SOCKET
 1. SIDE / TAIL LIGHTS / MARKER LIGHTS
 2. BRAKE / STOP LIGHTS
 3. INDICATOR (LEFT)
 4. INDICATOR (RIGHT)
 5. FOG LIGHT
 6. REVERSE
2 No SPECIAL FUNCTION CHANNELS FOR PSV (PASSENGER SERVICE VEHICLE) REQUIREMENTS
EMERGENCY ENGINE STOP (EXTERNAL ENGINE EMERGENCY STOP)
2 CHANNEL BATTERY V SENSE (BATTERY MONITORING)
2 CHANNEL SPLIT CHARGE
2 CHANNEL BATTERY MANAGEMENT
LOAD PRIORITIZATION / LOAD SHEDDING

COMPANY:			
TITLE: ECU MODEL AT 56			
DRAWN: D O D	DATED: 27/11/08	CODE:	SIZE: A 2
CHECKED:	DATED:	DRAWING No.:	REV: 1.0
QUALITY CONTROL	DATED:	SCALE:	SHEET 1 OF 3
RELEASED	DATED:		

ACETECH SYSTEMS PROGRAMMABLE ECU MODEL AT 56H/OP-2L/OP-20IP



SPECIFICATION:

- COMMUNICATION PROTOCOL: CAN J1939 (ISO 11898)
- OPERATING VOLTAGE: 10 - 30 VDC (NEGATIVE GROUND / EARTH)
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 2. BRAKE / STOP LIGHTS
 3. INDICATOR (LEFT)
 4. INDICATOR (RIGHT)
 5. FOG LIGHT
 6. REVERSE
- 2 No SPECIAL FUNCTION CHANNELS FOR PSV (PASSENGER SERVICE VEHICLE) REQUIREMENTS
- EMERGENCY ENGINE STOP (EXTERNAL ENGINE EMERGENCY STOP)
- 2 CHANNEL BATTERY V SENSE (BATTERY MONITORING)
- 2 CHANNEL SPLIT CHARGE
- 2 CHANNEL BATTERY MANAGEMENT
- LOAD PRIORITIZATION / LOAD SHEDDING

DRAWN: D O D				DATED: 27/11/08				COMPANY:			
CHECKED:				DATED:				TITLE: ECU MODEL AT 56			
QUALITY CONTROL				DATED:				CODE:	SIZE: A 2	DRAWING No.:	REV: 1.0
RELEASED				DATED:				SCALE:		SHEET 2 OF 3	

**ACETECH SYSTEMS PROGRAMMABLE ECU
MODEL AT 56H/OP-2L/OP-20IP
PLUG / TERMINAL IDENTIFICATION**

HIGHSIDE SWITCHED OUTPUTS
OUTPUT# FUNCTION

PLUG JI01
OUTPUT / OP 1+
OUTPUT / OP 2+
OUTPUT / OP 3+
OUTPUT / OP 4+
OUTPUT / OP 5+
OUTPUT / OP 6+
OUTPUT / OP 7+
OUTPUT / OP 8+

PLUG JI02
OUTPUT / OP 9+
OUTPUT / OP 10+
OUTPUT / OP 11+
OUTPUT / OP 12+
OUTPUT / OP 13+
OUTPUT / OP 14+
OUTPUT / OP 15+
OUTPUT / OP 16+

PLUG JI03
OUTPUT / OP 17+
OUTPUT / OP 18+
OUTPUT / OP 19+
OUTPUT / OP 20+
OUTPUT / OP 21+
OUTPUT / OP 22+
OUTPUT / OP 23+
OUTPUT / OP 24+

PLUG J01
GROUPED HIGHSIDE OUTPUTS (SWITCHED - BATTERY - IGNITION - ISOLATED ENABLED)
OUTPUT # FUNCTION

OUTPUT / OP 25+ (A)
OUTPUT / OP 25+ (B)
OUTPUT / OP 25+ (C)
OUTPUT / OP 26+ (A)
OUTPUT / OP 26+ (B)
OUTPUT / OP 26+ (C)
OUTPUT / OP 27+ (A)
OUTPUT / OP 27+ (B)

PLUG J02
GROUPED HIGHSIDE OUTPUTS (SWITCHED - BATTERY - IGNITION - ISOLATED ENABLED)
OUTPUT # FUNCTION

OUTPUT / OP 27+ (C)
OUTPUT / OP 28+ (A)
OUTPUT / OP 28+ (B)
OUTPUT / OP 28+ (C)
OUTPUT / OP 29+ (A)
OUTPUT / OP 29+ (B)
OUTPUT / OP 29+ (C)
OUTPUT / OP 30+ (A)

PLUG J03
GROUPED HIGHSIDE OUTPUTS (SWITCHED - BATTERY - IGNITION - ISOLATED ENABLED)
OUTPUT # FUNCTION

OUTPUT / OP 30+ (B)
OUTPUT / OP 30+ (C)
OUTPUT / OP 31+ (A)
OUTPUT / OP 31+ (B)
OUTPUT / OP 31+ (C)
OUTPUT / OP 31+ (D)
OUTPUT / OP 31+ (E)
OUTPUT / OP 31+ (F)

PLUG J04
SPECIAL OUTPUT DRIVES FOR MARKER LIGHTS / STOP / TAIL / INDICATORS / FOG / REVERSING
DRIVEN BY INPUTS (IP 2-4-5-6-7)
OUTPUT# FUNCTION

OUTPUT / OP 49+ (A) 1 + 2 DRIVEN BY INPUT / IP2+ (SIDE / TAIL LIGHTS / MARKER LIGHTS)
OUTPUT / OP 49+ (B) 1 + 2 DRIVEN BY INPUT / IP2+ (SIDE / TAIL LIGHTS / MARKER LIGHTS)
OUTPUT / OP 50+ 1 + 2 DRIVEN BY INPUT 4+ / IP4+
OUTPUT / OP 51+ 1 + 2 DRIVEN BY INPUT 5+ / IP5+
OUTPUT / OP 52+ 1 + 2 DRIVEN BY INPUT 6+ / IP6+
OUTPUT / OP 53+ 1 + 2 DRIVEN BY INPUT 7+ / IP7+

PLUG Ji04
SPECIAL FEATURE INPUT / OUTPUTS FOR EMERGENCY EXTERNAL VEHICLE ENGINE STOP (PSV REQUIREMENT)
DRIVEN BY LOW SIGNAL (GROUND) EXTERNAL SWITCH
TERMINAL # FUNCTION

PWR IN 54+ +12 / 24 SUPPLY
OP 54+ / OUTPUT 54+ +12 / 24 OUTPUT
NEGATIVE LOW DISABLE DISABLES OUTPUT 54 WHEN SWITCHED TO GROUND
PWR IN 55+ +12 / 24 SUPPLY
OP 55+ / OUTPUT 55+ +12 / 24 OUTPUT
NEGATIVE LOW DISABLE DISABLES OUTPUT 55 WHEN SWITCHED TO GROUND

PLUG JFRPU 1-2
SWITCH PANEL / CONTROL PANEL CONNECTION POINT
OUTPUT# FUNCTION

FR 1+ +12 VOLT SUPPLY SWITCH PANEL NUMBER 1
FR 1- -12 VOLT (GROUND) SUPPLY SWITCH PANEL NUMBER 1
CAN L CAN LOW
CAN H CAN HIGH
FR 2+ +12 VOLT SUPPLY SWITCH PANEL NUMBER 2
FR 2- -12 VOLT (GROUND) SUPPLY SWITCH PANEL NUMBER 2
CAN L CAN LOW
CAN H CAN HIGH

PLUG JI03
BATTERY V SENSE - SPLIT CHARGE CONTROL (BATTERY MANAGEMENT)
INPUT# FUNCTION

V SENSE BATTERY 1 MAIN VEHICLE BATTERY V SENSE
CHARGE ON OUTPUT TO CHARGE HCM (HIGH CURRENT MODULE)

NOTE:
BATTERIES / BATTERY CONNECTED TO ACETECH ECU
ARE AUTOMATICALLY VOLTAGE SENSED VIA INTERNAL CIRCUITRY

HIGHSIDE INPUTS
INPUT# FUNCTION

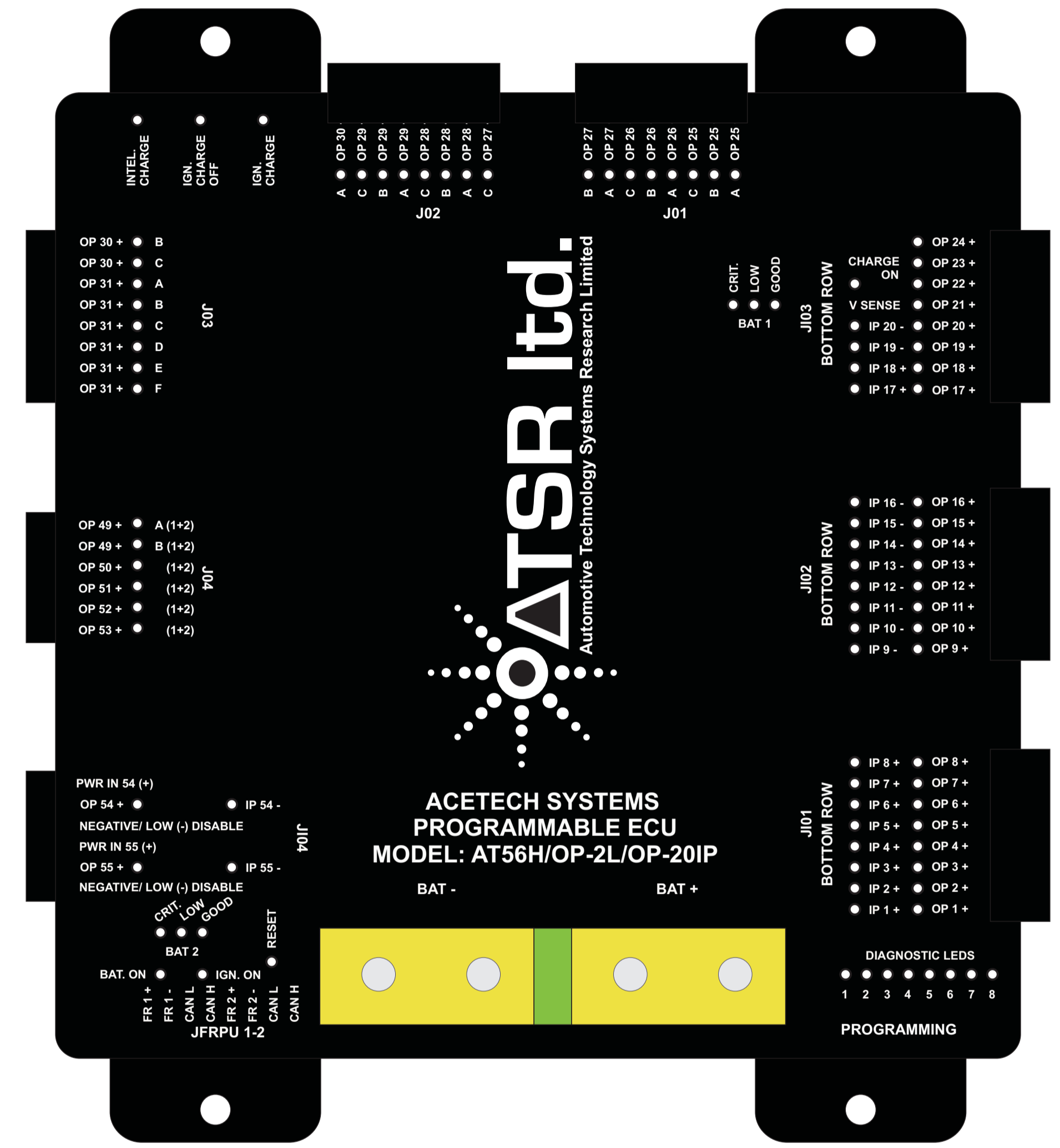
PLUG JI01
INPUT / IP 1+ HORN
INPUT / IP 2+ SIDELIGHTS / MARKER LIGHTS (OP 49)
INPUT / IP 3+ IGNITION
INPUT / IP 4+ STOP / BRAKE PEDAL (OP 50)
INPUT / IP 5+ (OP / 51)
INPUT / IP 6+ (OP / 52)
INPUT / IP 7+ (OP / 53)
INPUT / IP 8+

LOWSIDE INPUTS
INPUT# FUNCTION

PLUG JI02
INPUT / IP 9- HANDBRAKE
INPUT / IP 10- REAR DOOR
INPUT / IP 11-
INPUT / IP 12-
INPUT / IP 13-
INPUT / IP 14-
INPUT / IP 15-
INPUT / IP 16-

LOWSIDE / HIGHSIDE INPUTS
INPUT# FUNCTION

PLUG JI03
INPUT / IP 17+
INPUT / IP 18+
INPUT / IP 19-
INPUT / IP 20-



DRAWN: D O D		DATED: 27/11/08		COMPANY:			
CHECKED:		DATED:		TITLE: ECU MODEL AT 56			
QUALITY CONTROL		DATED:		CODE:	SIZE: A 1	DRAWING No.:	REV: 1.0
RELEASED		DATED:		SCALE:		SHEET 3 OF 3	