



ORTEM | 25 YEARS OF PIONEERING INNOVATION



## **oMux.11x12**

Multiplexer

**oMux.11x12**, a part of the Multiplexer product family, is a Body Control Unit that fulfills essential control functions such as door control, signaling, lamp operation, wiper motor control, air conditioner motor control, and window raising/lowering in vehicles. It can be installed in different parts of the vehicle and provide real time information via CAN-Bus communication interface.

Due to its capability to execute simultaneous operations, it provides the most cost-effective and economical solution for the vehicle. It can operate 15 **oMux** devices on the same CAN-Bus with identical embedded software due to its master/slave operation capability. This allows seamless integration and efficient management of multiple **oMux** units within the vehicle system.

With the user-friendly **oMux.Designer** development GUI application, one can effortlessly create user-defined scenarios using functional block diagrams. Real-time software updates, diagnostics, and software retrieval processes can be performed via CAN-Bus, ensuring efficient operations and hassle-free maintenance. With the ability of the CAN-Bus communication interface, embedded software updates can be transmitted to all devices concurrently without uninstalling them from the vehicle.

**9-36 VDC**  
**Operating Voltage**  
(Applicable to 12/24 V Systems)



**5 Multi Function**  
**6 Digital Input**  
(2 High Active/4 Low Active)



**4 Half Bridge Low Side 3A**  
**High Side 7.5**  
**8 High Side 7.5A**



**3xCAN Interface**  
(Protocol SAE J1939)



**Wake Up via CAN and**  
**Digital Input**



**120 mm x 100 mm x 42 mm**  
**Dimensions**



**-40 °C ~ +85 °C**  
**Operating Temperature**



## Supply Characteristics

Input Voltage Range	9-36 V
Ovvervoltage	36 V
Current (24 V Operation Mode)	30 mA
Current (24 V Sleep Mode)	3 mA
Ovvervoltage (5 minutes)	36 V
V <sub>bb</sub> _Logic Current (For every connector)	0.05 - 1 A
V <sub>bb</sub> _B1,B2 (For every connector)	15 A

## Digital Input Characteristics

Input Voltage Range	0-V <sub>bat</sub> V
Ovvervoltage	36 V
Inductive Load Protection	Available
Pull-up/down Resistor	Pull Up 10KΩ, Pull Down 95KΩ
Pin's Capacitance	0.1 μF
Pull-up/down (When Active)	10 ms

## 2.5A/10A "Half-Bridge" Output Characteristics

Switchable Voltage Range	9 - 36 V
Output Current	7.5A High Side, 5A Low Side
"High-Side" Output ON Resistor	16 mΩ
"Low-Side" Output ON Resistance	50 mΩ
Ovvervoltage	36 V
PWM Frequency (for HS)	100 Hz
PWM Resolution	1%
Internal Flyback Diode	Unavailable
Inductive Impact Protection	750 V (Peak)

## CAN Characteristics

Ovvervoltage protection	-58 ~ +58 V
Bit Rate	50 - 1000 kbps
J1939 Compatibility	Available
Internal programable termination resistor (120Ω)	Available

## Environmental Conditions

Operating Temperature	-40 °C ~ +85 °C
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