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(57) Abstract :
An adaptive windshield tinting device is provided, comprising an electro-responsive film (101), a light intensity sensor (102), microcontroller (103), power supply unit (104), and manual override switch (105). The film dynamically adjusts opacity based on detected light conditions to enhance driver comfort and safety. A compact housing (107) integrates system components powered via standard 12V input (106). The device ensures rapid glare reduction, transparency restoration, and user control, providing enhanced visibility and adaptable light filtering in automotive environments.

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