

Resistor selection

R1 is used to limit the amount of current flowing into the AN pin and output a low-level logic when the AC discharge port reaches the threshold V_{TH} . Therefore, R1 needs to satisfy:

$$R_1 < (V_{TH} - V_F) \div I_{Fmin} \quad (1)$$

R2 is selected to make sure that ISOM8118-Q1 outputs a low level after the input drops below the threshold at the minimum CTR, and avoid an over-current at the ISOM8118-Q1 output. Therefore R2 resistance must satisfy:

$$(V_{DD2} - V_{CE(SAT)}) \div I_{Cmax} < R_2 < (V_{DD2} - V_{CE(SAT)}) \div (I_{Fmin} \times CTR_{MIN}) \quad (2)$$

For more details on the application and design considerations please see [Relay Weld Detection for OBCs in V2L With Opto-emulators](#)

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