

GPIO & Pull Resistors

Electrical Engineering

The pin configurations, and what each leaves an open input doing.

Every pin should be configured, including the ones you never use.

Configuration	Behaviour when open	Use for
Input, floating	Undefined, may oscillate	Always-driven signals
Input, pull-up	Reads high	Buttons wired to ground
Input, pull-down	Reads low	Buttons wired to the supply
Push-pull output	Drives both ways	Ordinary digital outputs
Open drain	Pulls low or releases	Shared buses, level shifting

A floating input drifts across the switching threshold and wastes current in the input buffer, sometimes oscillating outright.