Driver stage for one relay

Vdd is the raw DC supply voltage. This is not the ethernet board internal 3.3V voltage.

1N4148

1K to 10K

to microcontroller (PIN: PD7 or PD6 or PD5 or PD4 ...)

Cx 100uF

about 33 Ohm

Rx

NPN small signal transistor
BC238, BC547,

Cx and Rx are optional. They reduce the power consumption of the relay by a few milliampere. The exact value of Rx depends on the type of relay. Common values are 22–68 Ohm. This circuit works because relays need a higher current when they switch and the current can be reduced when the contact just needs to be held.

Please keep the relay physically separated from the ethernet board [at least 1 inch, 2.5 cm] as it could cause electromagnetic interference.