WMH-20/WMR-10

Expected Loco
LED Circuit

9-Pin JST
Connector
4
Common (Blue)

Plus

Anode (k)

Current approx
10-15mA

12-18V DC
from Track
via rectifier

5

1K Ohm

Front Light (White)

Cathode (k)

6

0-3.3V Logic
Level from
microprocessor

Same
Circuit

Rear Light (Yellow)

2N3904

Minus

CATHODE FLAT

[3.05]
Ø.120

[1.50]
.059
MAX

ANODE

CATHODE

[1.50]
.059

[2.54]
.100

Notes:

If the loco circuit includes another resistor, you should remove it for brighter LEDs.

If the loco uses filament lamps, you will need to replace them with LEDs. Make sure you connect them the correct way around.