



Our Famous GOOF PROOF NO
Questions Asked Warranty



| Scale | Functions | Function Rating |
|-------|-----------|-----------------|
| All | 2 | 200 mA |

Dimensions .83"x.466"x.16" or 21.07mm x 11.84mm x 4.08mm

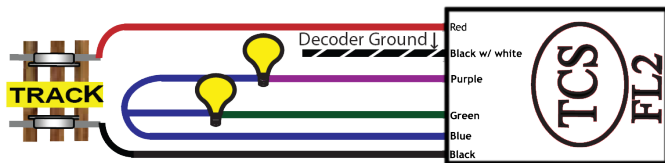
This function only decoder is designed for any scale where extra lighting features and functions are needed. It has 2 light functions.

| 11 | Light Function Wires | | | Light Effect | fwd | rev | both |
|----|----------------------|----|---------------|-------------------------------|-----|-----|------|
| | CV 51 | 0 | Green Wire* | | | | |
| | CV 52 | 16 | Purple Wire** | | | | |
| | | | | Constant Bright Light | 0 | 16 | 32 |
| | | | | Random Flicker (fire box) | 1 | 17 | 33 |
| | | | | Mars Light | 2 | 18 | 34 |
| | | | | Flashing Light | 3 | 19 | 35 |
| | | | | Single Pulse Strobe | 4 | 20 | 36 |
| | | | | Double Pulse Strobe | 5 | 21 | 37 |
| | | | | Rotary Beacon | 6 | 22 | 38 |
| | | | | Gyra Light | 7 | 23 | 39 |
| | | | | Rule 17 (dimnable light) | 8 | 24 | 40 |
| | | | | Ditch Light (Left or Right) | 10 | 26 | 42 |
| | | | | Ditch Light (Other side) | 11 | 27 | 43 |

INSTALLATION

For detailed installation information visit our website where we maintain a constantly growing database of a wide range of locomotives and decoders.

WIRING DIAGRAM



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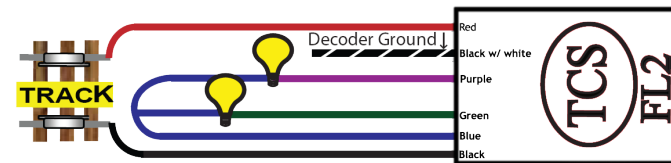
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WIRING DIAGRAM



BASIC CONFIGURATION

Circle the values by all of the changes you want to make.

| | | | | |
|-------|---|---|----|--|
| 1 | A | 0 | 1 | Reverse the direction the engine runs. |
| | C | 4 | 4 | Enable analog (DC) operation. |
| | E | 0 | 32 | Make the decoder address 128 or higher. |
| CV 29 | 6 | | | Adjust the Default Value by the values you have circled. |

ADDRESSING

2 Digit Address

Use if the address is 127 or less.

| | | | | |
|---|------|---|--|--------------------------|
| 2 | CV 1 | 3 | | Record your choice here. |
|---|------|---|--|--------------------------|

Consist Address

If this is greater than 0, the regular address is unalterable.

| | | | | |
|-------|---|--|--|---|
| 4 | | | | Add 128 to reverse the loco when in consist. Some systems only! |
| CV 19 | 0 | | | Use a 2 digit address when in a consist (Multiple units). |

Factory Reset

Sets all CVs with a shaded value back to that value.

| | | | | |
|--|------|-----|--|---|
| | CV 8 | 153 | | As soon as you enter a 2 in CV 8 the reset is complete. |
|--|------|-----|--|---|

Consist Lighting Control

Activate so the direction of travel lights are lit.

| | | | | |
|----|-------|---|----------------|-----------------------|
| 18 | | | Green Wire = 1 | Purple Wire = 2 |
| | CV 21 | 0 | | Other Light Functions |

Analog (DC) Power Control

Turn off Black or Red wire powered functions.

| | | | | |
|----|-------|-----|-------------|--|
| 17 | | | Green = 1 | Purple = 2 |
| | CV 13 | 255 | | Activate power to light functions on DC |
| | | | Brake on DC | Activate by subtracting 4 from CV 29 in table 1. |

For a full list of features for the FL2: See the "Additional Programming Guide" at http://www.tcsdcc.com/Customer_Content/Literature/Literature.htm for information on four digit addressing, adjustable dimming, blink rate adjust, function remapping, and much much more.

NOTE: When attempting to read back CV's on the programming track the FL2 must have a 50-100 ohm resistor in series between the blue wire and any of the light function wires.

WARRANTY PROCEDURE: All decoders are covered by a one year goof proof, no questions asked warranty. Please return in a small box.

1. You MUST register the failed decoder on our website at www.tcsdcc.com. If you do not have access to a computer you MUST call to register your warranty at: (267) 733-3408
2. Print out a copy of the Warranty Registration and include it in the box with the decoder(s).
3. Return decoder(s) directly to us using the address below.

Compatible with NMRA DCC standards. Made by TCS in the USA.
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Train Control Systems
P.O. Box 341
845 Blooming Glen Rd.
Blooming Glen, PA 18911



Phone 215-453-9145
Fax 215-257-0735
Email tcs@tcsdcc.com
Web www.tcsdcc.com

BASIC CONFIGURATION

Circle the values by all of the changes you want to make.

| | | | | |
|-------|---|---|----|--|
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|---|------|---|--|--------------------------|

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WARRANTY PROCEDURE: All decoders are covered by a one year goof proof, no questions asked warranty. Please return in a small box. NOTE: A4X, A6X, DP2X, and all drop in N-scale decoders must be returned in a small box.

1. You must register the failed decoder on our website at www.tcsdcc.com.
2. Print out a copy of the Warranty Registration and include it in the box with the decoder(s).
3. Return decoder(s) directly to TCS. Train Control Systems

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