



Global Traffic
Technologies

Opticom™ Infrared System

Opticom™ Models 452 and 454 Discriminators

Opticom™ Infrared System Matched Component Products

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Description

The Opticom™ Model 452 Discriminator is a plug-in, *two-channel*, dual-priority, encoded signal device designed for use with Opticom™ Infrared System Emitters and Detectors. The Opticom™ Model 454 Discriminator is a plug-in, *four-channel*, dual-priority, encoded signal device designed for use with Opticom infrared system emitters and detectors. Both can be installed directly into the input file of Type 170 traffic controllers equipped with priority phase selection software and in virtually any other traffic controller equipped with priority phase selection inputs and related software. Opticom™ Discriminators are powered from AC mains and contain their own internal power supply to support Opticom infrared system detectors.

The Opticom™ Model 760 Card Rack is required when input file space is not available.

Opticom models 452 and 454 discriminators recognize and discern between two Opticom infrared system emitter frequency rates via Opticom infrared system detectors. Within each of these frequency rates the discriminators further discern between encoded and non-encoded emitters.

Certain intersection parameters may be modified via the use of onboard jumper selects.



Opticom™ Model 452 Discriminator and
Opticom™ Model 454 Discriminator

The primary Opticom detector inputs and power outputs are on the card edge connector. Two additional auxiliary detector inputs are available for each channel through a front panel connector. The front panel connector also contains signal indication sensing inputs.

Each channel delivers a constant output for high-priority activation and a pulsed output for low-priority activation. A high-priority signal received on any channel will override any low-priority activation.

Opticom™ Infrared System Matched Component Products

Opticom™ Models 452 and 454 Discriminators

Features

- Four channels of detection with the Opticom™ Model 454 Discriminator
- Two channels of detection with the Opticom™ Model 452 Discriminator
- Two auxiliary detectors per channel
- Compatibility with encoded signal and non-encoded signal Opticom™ Infrared System Emitters
- High- and low-priority vehicle discrimination
- “First-come, first-served” priority within each priority level
- Direct installation into CA/NY Type 170 input files
- Automatic range setting using an encoded emitter
- User-adjustable range setting from 200 to 2,500 feet (60 to 760 m) of operation
- Easy installation
- Compatibility with most traffic controllers
- Jumper settings for intersection parameters
 - Maximum call time can be set to 2, 4 or 6 minutes or infinity
 - Call hold time can be set to 6 or 12 seconds
 - Non-encoded emitters may be disabled
- Front panel switches and diagnostic indicators for testing
- Erasable write-on pads for phase or movement labeling
- Possible configuration for operating without computer
- Crystal controlled circuitry
 - Accurate optical signal recognition circuitry
 - Precise output pulse
 - Definitive call verification
- Regulated detector power supply
- Optically isolated outputs

- Multi-function test switch
 - High and low test calls
 - Reset to default parameters
 - Range setting
 - Diagnostic test
- Advanced built-in diagnostics and testing
- Tested to NEMA and Caltrans environmental and electrical test specifications
- Opticom™ Model 755 Four-Channel Adapter Card (optional)

Pin Index

- Card edge – 44-pin STD on the main PCB

Pins Function

A	Ground
D	Channel A primary detector input
E	Detector 24 VDC power output
F	Channel A output, collector (+)
H	Channel A output, emitter (-)
J	Channel B primary detector input
K	Detector ground
L	Earth ground
M	AC - (in)
N	AC + (in)
P	Channel C primary detector input (not used model 452)
R	Detector 24 VDC power output
S	Channel C output collector (+) (not used model 452)
T	Channel C output emitter (-) (not used model 452)
U	Channel D primary input (not used model 452)
V	Detector ground
W	Channel B output collector (+)
X	Channel B output emitter (-)
Y	Channel D output collector (+) (not used model 452)
Z	Channel D output emitter (-) (not used model 452)

- D-shell connector – 44-pin male (front panel)

Pins	Function
1	Not used
2	Not used
3	Not used
4	Not used
5	Not used
6	Not used
7	Not used
8	Not used
9	Not used
10	Not used
11	Not used
12	Not used
13	Channel A auxiliary detector 2 input
14	Channel B auxiliary detector 2 input
15	Channel B auxiliary detector 1 input
16	Not used
17	Not used
18	Not used
19	24 VDC power output
20	24 VDC power output
21	Not used
22	Not used
23	Not used
24	Not used
25	Not used
26	Not used
27	Not used
28	Channel A auxiliary detector 1 input
29	Channel C auxiliary detector 2 input (not used model 452)
30	Channel C auxiliary detector 1 input (not used model 452)
31	Not used
32	Not used
33	Not used
34	Detector ground
35	Detector ground
36	Not used
37	Not used
38	Not used
39	Not used
40	Not used
41	Not used
42	Not used
43	Channel D auxiliary detector 2 input (not used model 452)
44	Channel D auxiliary detector 1 input (not used model 452)

Operating Parameters

- Four dual-priority channels with the Opticom model 454
- Two dual-priority channels with the Opticom model 452
- Priority within each level: first-come, first-served
- Priority override: always higher over lower
- Opticom™ Infrared System Detector input(s): one per channel on the card edge connector and two auxiliary per channel through the auxiliary function harness
- LED indicators
 - Power on
 - High signal/call per channel
 - Low signal/call per channel
- Multi-function test switch to enable diagnostics and test calls to each channel
- Voltage: 89 to 135 VAC, 60 Hz
- Temperature: -37° C to +74° C (-34.6° F to +165.2° F)
- Humidity: 5% to 95% relative

Physical Dimensions

Length: 7.0 in. (17.8 cm)
8.2 in. (20.8 cm) including handle

Width: (Model 452) 1.1 in. (2.8 cm)
(Model 454) 2.3 in. (5.8 cm)

Height: 4.5 in. (11.4 cm)

Weight: (Model 452) 0.53 lbs. (240 g)
(Model 454) 0.57 lbs. (260 g)

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