

**SAFESCAN 9
SAFETY LIGHT CURTAIN
INSTALLATION MANUAL**

for

SS9

Dolan-Jenner

SAFESCAN 9 SAFETY LIGHT CURTAIN INSTALLATION MANUAL

© 2000 DOLAN-JENNER INDUSTRIES, 5335 AVION PARK DR. HIGHLAND HTS.,
OHIO 44143

www.dolan-jenner.com

IO900-10000 Rev. C 4/2000 Printed in USA

Overview

This manual contains installation, operation, and maintenance information pertaining to the SafeScan 9 (SS9) Safety Light Curtain.

Installation

Refer to Section 2 for information on unpacking the equipment, installation requirements, mounting the system units, and system wiring.

Troubleshooting

Refer to Section 5 for troubleshooting guidelines and procedures. If required, you may call 800-626-8324 for consultation.

Ordering Spare Parts

Contact Customer Service to order additional spare parts.

Returning Equipment

Contact Customer Service to obtain a Return Authorization Number and instructions for packing and shipping.

Customer Service

Telephone: 440-460-1360
Facsimile: 440-460-3800
Address: Dolan-Jenner Industries, Inc.
5335 Avion Park Dr.
Highland Hts., Ohio 44143
USA

Web Site: <http://www.dolan-jenner.com>

IMPORTANT SAFETY NOTICE

Certain intended functions performed by Dolan-Jenner SafeScan products are regulated by Federal, State, local and other laws and regulations, including the Occupational Safety and Health Administration (OSHA), and state health and safety agencies. It is the user's responsibility to ensure that all applications, installations, wiring, operation, and maintenance for each SafeScan product meet all the applicable OSHA and all other regulatory requirements.

Other organizations provide information on the use of presence sensing devices, including the American National Standards Institute (ANSI), the American Metal Stamping Association (AMSA), Precision Metalforming Association (PMA), the National Safety Council, and the Robotics Institute of America (RIA).

Any questions regarding the application or use of a SafeScan product should be directed to your company's safety engineer or safety department, or to a qualified safety expert. SafeScan systems will help guard against injury only if properly installed and integrated with the protected machine, properly operated, and properly maintained. It is the responsibility of the purchaser/user to conduct a hazard analysis of the area, machines, and/or apparatus to be guarded prior to selection and installation of any SafeScan system. Before installing any SafeScan system, read and become familiar with Installation Section of this instruction manual.

All of the conditions specified in the Installation Requirements section of the Installation Section apply when a SafeScan system is used to protect an operator from an equipment hazard. It is mandatory to read and become familiar with these requirements prior to installing equipment.

Table of Contents

Section	Page
Section 0 - Overview	
Overview	i
Safety Notice	ii
Table of Contents	iii, iv
List of Figures & Tables	v
Section 1 - General Information	
Introduction	1
Overview of System Components	2
Operating Highlights	3
Specifications	7
Section 2 - Installation	
Introduction	11
Preliminaries	11
Installation Requirements	11
Wiring to the Machine Control Unit	24
Wiring to a PLC	24
Light Bar Length Set Up	26
Installation Checklist	27
Upside Down Mounting	28
Mirrors	28
Section 3 - Checkout & Operation	
Introduction	30
Controls & Indicators	30
Initial Checkout	31
Operational Checkout	32
Deselect Setup (Blanking)	33
Fixed Deselect Programming	34
Floating Deselect Programming	35

Table of Contents, continued

Section	Page
Section 4 - Theory of Operation	
Introduction	38
Electro-Optics	38
Power Supply	39
Control & Alarming	39
Channel Deselect	40
Section 5 - Maintenance	
Introduction	42
Preventive Maintenance	43
Functional Testing	43
Troubleshooting	43
Component Removal & Replacement	45
Transmitter/Receiver	46
Storage	46
Returning Equipment	47
Appendix	
Glossary	48
OSHA Regulations & ANSI Standards	52

List of Figures

Figure		Page
1-1	SafeScan 9 Components	2
1-2	Light Bar Configuration	4
1-3	Object Detection	5
2-1	Depth Penetration Factor	13
2-2	Sample Calculation of Minimum Safety Distance	14
2-3	Transmitter/Receiver Mounting & Outline	16
2-4	Control Module Mounting & Outline	17
2-5	Correct & Incorrect Mounting	18
2-6	Control Module Key Features	21
2-7	Machine Interface Circuit	22
2-8	Using Mirrors	28
2-9	Mirror Specifications	29
3-1	Transmitter Indicators	31
3-2	Operator Control Panel	33
4-1	Optical Paths	38
4-2	Captive Contact & Non-Captive Contact Relays	40
4-3	Fixed Channel Deselect	41

List of Tables

Table		Page
2-1	Relay Contact States	20
2-2	Remote Relay Check Options	24
2-3	Relay States & Machine Control Interface	26
2-4	Light Bar Length Switch Setting	27
3-1	Floating Deselect & Penetration Depth Factor	37
5-1	Troubleshooting	44