VEKTEK®

The Productivity Devices Company

Guardian 2.0

System Planning Worksheet



Introduction

This document serves as the first step towards purchasing and installing a Guardian 2.0 System. It is intended to serve as a guide through the process of planning a Guardian 2.0 System install. Please go through this form carefully and fill out every section applicable to help ensure all considerations have been made.

Vektek LLC 1334 East Sixth Ave. P.O. Box 625 Emporia, KS 66801 U.S.A.	Instruction Sheet	IS3304		
		REV:	A	
		REV. BY/DATE:	BDC	3/25/25
		APPR/DATE:	BCD	4/7/25

TITLE: GUARDIAN 2.0 SYSTEM PLANNING WORKSHEET

CUSTOMER INFORMATION:

COMPANY: _____

CITY, STATE, ZIP: _____

CONTACT: _____ CONTACT PHONE (EXT): _____

CONTACT EMAIL: _____

MACHINE INFO:

MACHINE MAKE:	
MACHINE MODEL:	
MACHINE SERIAL NUMBER:	
MACHINE TYPE:	
PALLET MANAGEMENT SYSTEM:	
NUMBER OF PALLETS:	
MACHINE MANUALS: ELECTRICAL ☐ PROGRAMMING ☐ LADDER ☐ OTHER ☐_____	

CONTROLLER INFO

MACHINE CONTROLLER MAKE:	
CONTROLLER MODEL NUMBER:	
CONTROLLER SERIAL NUMBER:	
OPTIONAL MCODES AVAILABLE:	
USER I/O AVAILABLE:	
MACHINE MANUALS: ELECTRICAL ☐ PROGRAMMING ☐ LADDER ☐ OTHER ☐_____	

FIXTURE INFO

NUMBER OF HYDRAULIC CIRCUITS PER FIXTURE:	
NUMBER OF HYDRAULIC FIXTURES:	
NUMBER OF MANUAL FIXTURES:	

FIXTURE SELECTION (CHOOSE ONE)

VEKTEK PALLET ID READER SYSTEM: IS MOUNTING LOCATION IN LINE OF SIGHT OF ID TAGS?	☐
USER IO: MACHINE CONTROLLER ☐ EXTERNAL PLC ☐ OTHER ☐_____	☐

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GUARIAN MONITORING

MONITORING LOCATION: LOAD STATION ☐ INSIDE MACHINE ☐ OTHER ☐_____

INPUT TO ACTIVATE MONITORING (IN CYCLE): MCODE ☐ USER I/O ☐ EXT PLC ☐
OTHER ☐_____

IS IN CYCLE COMAND FIN/ACK NEEDED? YES ☐ NO ☐

ALARM WHEN HYDRAULIC PRESSURE FAULT IS DETECTED: E-STOP ☐ VISUAL ☐ AUDIBLE ☐
FEEDHOLD ☐ CUSTOM ☐_____

***ALARM WHEN TRANSMITTER LOST COMMUNICATION:** E-STOP ☐ VISUAL ☐ AUDIBLE ☐
FEEDHOLD ☐ IGNORE ☐ CUSTOM ☐_____

***ALARM FOR LOW BATTERY:**
MANUAL CHECK ☐ VISUAL ☐ AUDIBLE ☐ CONROLLER SOFT ALARM ☐ IGNORE ☐
CUSTOM ☐_____

***PALLET ID FEEDBACK:** CHECK PALLET ID MATCHES PROGRAM ☐ OTHER ☐_____

WIRING

REQUIRED?	WIRE	FUNCTION	LOCATION IF KNOWN
YES	24VDC (2)	2A POWER	
YES	0VDC (2)		
YES	INCYCLE INPUT	BEGINS MONITORING	
YES	IN CYCLE COMMON		
YES	CONDITION RELAY	PRESSURE GOOD STATUS	
*NO	LOW BATTERY ALARM	ALARM FTU BATTERY IS LOW	
*NO	LOST COMMUNICATION ALARM	ALARM COMMUNITION LOST BETWEEN THE MCU AND FTU	
*NO	IN CYCLE ACK. / FIN.	ACKNOWLEDGEMENT THE IN CYCLE COMMAND WAS RECEIVED	
YES	OUTPUT COMMON	CONDITION, BATTERY, COMMUNICATION, ACK/FIN	
**NO	PALLET ID 1	***NOT USED IF USING PALLET ID READER.*** BINARY INPUT FOR DETERMINING WHICH FIXTURE TO MONITOR. UP TO 64 FIXTURES IF USING ALL BIT VALUES.	
**NO	PALLET ID 2		
**NO	PALLET ID 3		
**NO	PALLET ID 4		
**NO	PALLET ID 5		
**NO	PALLET ID 6		
**NO	PALLET ID COMMON		
***NO	RS-232 GROUND	PALLET ID FEEDBACK	
***NO	RS-232 TRANSMIT		
***NO	RS-232 RECEIVE		

* OPTIONAL FEATURES NOT REQUIRED FOR BASIC OPERATION
**NOT APPLICABLE IF USING PALLET ID READER
***OPTIONAL PALLET ID FEEDBACK FOR FIXTURE VERIFICATION

Guardian 2.0 Pre-installation Checklist

Before the installation of the Guardian 2.0 System commences, it is crucial to address the following preparatory items to ensure a smooth and efficient setup process. Please review and complete each item on this checklist:

- ☐ **Low Pressure Alarm Command:** Specify the desired action when low pressure is detected (e.g., halt operation, prevent pallet indexing, activate warning signals).
- ☐ **M-Code Terminal Availability:** Confirm the location and availability of M-Code terminals on your machine.
- ☐ **M-Code Programming:** Determine if M-Code interrogation steps can be integrated into your part programs.
- ☐ **Machine Grounding Type:** Identify whether your machine uses a positive or negative case ground, including which is switched on or off.
- ☐ **Master Control Unit Location:** Decide on the preferred location for the Guardian Master Control Unit, ensuring it is easily accessible for operation and monitoring.
- ☐ **Receiver Installation Preference:** Determine Receiver Pallet ID Reader mounting location, considering pre-machining or during machining stages.
- ☐ **Power Source for Master Control Unit (MCU):** Identify the source of 20-36 VDC power for the Master Control Unit.
- ☐ **Fixture Transmitter Placement (FTU):** Plan the placement of Guardian 2.0 Fixture Transmitters on your pallet, optimizing for communication efficacy.
- ☐ **Pallet ID Tag Placement (OPTIONAL):** Plan the placement of the Guardian Pallet ID tags on your pallet, optimizing for communication efficacy.
- ☐ **Fixture Pressure Switch Set Point:** Establish the critical pressure level at which the machine should automatically stop to prevent damage or accidents.
- ☐ **Installation Support Needs:** Evaluate whether assistance from the Machine Tool Distributor’s service staff is necessary, or if your staff possesses the requisite knowledge and capability for the Guardian installation.