Ugly Betty Conveyor System

OPERATIONS MANUAL

Integrated Technology Resources, Inc.
(317) 757-5432
www.integratedtr.com

Integrated Technology Resources, Inc.

Table of Contents

Integrated Technology Resources, Inc.
(317) 757-5432
www.integratedtr.com

INCLINE or LIFT CONVEYOR

Incline conveyor wheel/support foot

Incline conveyor transport cable reel

Integrated Technology Resources, Inc.
(317) 757-5432
www.integratedtr.com

V-CONVEYOR / PLATFORM

Integrated Technology Resources, Inc.
(317) 757-5432
www.integratedtr.com

CONTROLS

Main control panel

Operator interface – Start/Stop controls

Rope pull on V-Conveyor – 2 places – each side of the V-conveyor

Integrated Technology Resources, Inc.
(317) 757-5432
www.integratedtr.com

EMERGENCY STOP (ESTOP) pushbutton

Movable from side to side on each ladder

EMERGENCY STOP (ESTOP) pushbutton cable connection

Integrated Technology Resources, Inc.
(317) 757-5432
www.integratedtr.com

Stunner control box power plug

Platform plug for stunner wand extension

Stunner wand plug recepticle located on each end of the platform.

Integrated Technology Resources, Inc.
(317) 757-5432
www.integratedtr.com

Moving the Incline Conveyor

Make sure the Incline conveyor is picked up from underneath the base and not from inside the horizontal support beams.

horizontal support beams

Picked up under the frame

Integrated Technology Resources, Inc.
(317) 757-5432
www.integratedtr.com

Make sure the feet are firmly against the trailer bed and the conveyor wheels are not being used as support. The middle of the conveyor should be supported with wood supports during storage and transport.

wood supports

Integrated Technology Resources, Inc.
(317) 757-5432
www.integratedtr.com

Moving the V-conveyor

The V-conveyor is very wide and will require extended forks or the use of two fork trucks. In this case, two were used to lift it before backing the trailer under it.

Integrated Technology Resources, Inc.
(317) 757-5432
www.integratedtr.com

The V-conveyor should be strapped through the frame base of the conveyor. The Incline conveyor should be strapped over the top of the conveyor to prevent it from bouncing up while transporting.

Setup of System

The Incline conveyor should be positioned so that the exit of the conveyor is over a rendering truck and the truck can easily be swapped out as required. The V-conveyor can be positioned in line or at a right angle to the Incline conveyor depending on the site requirements. Once the Incline conveyor is in place, the feet should be extended so all weight is off of the wheels. The wheels are only there to allow easier positioning during setup. Warning: *Use of the conveyor with wheels on the ground will result in damage to the wheels and frame.*

Integrated Technology Resources, Inc.
(317) 757-5432
www.integratedtr.com

The rear or either side of the Incline conveyor can be opened to allow the V-conveyor to feed into it from any direction (Inline or at a right angle).

The power cable for the Incline conveyor must be connected to the blue connector on the main control panel mounted to the V-conveyor.

Integrated Technology Resources, Inc.
(317) 757-5432
www.integratedtr.com

The power cable for the Incline conveyor must be connected to the blue connector on the control panel (shown below).

When preparing the conveyors to be transported or moved, make sure to utilize the cable reels on each of the conveyors to secure the Incline power cable and Estop cables and prevent damage.

The yellow VERISAFE Absence of Voltage Tester on the front of the panel indicates presence of voltage inside the panel. Pressing the white dot will test the panel to see if it is safe to open the panel. This should be performed prior to opening the panel unless you are a certified electrician or service technician.

There are two Emergency pushbutton (ESTOP) stations with the system. For the system to run, these must be connected.

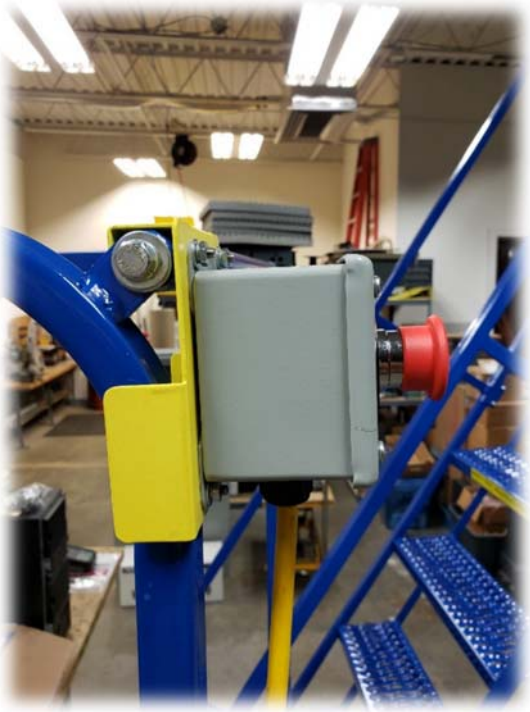
The pushbutton unit with a prewired cable attached should be connected to the main control panel.

The pushbutton unit with just a connector on it gets connected to the cable that is permanently attached to the main control panel.

The mounting bracket allows these to be mounted on either side of the inspection ladders.

Integrated Technology Resources, Inc.
(317) 757-5432
www.integratedtr.com

One pushbutton is to be hung on each of the inspector ladders.



Each inspection ladder should be positioned along the edge of the Incline conveyor.

Integrated Technology Resources, Inc.
(317) 757-5432
www.integratedtr.com

The stunner control boxes should be hung on the mounting brackets on the back of the V-conveyor platform. The power for the stunner control box is the mounted yellow water-tight recepticle on the base of the conveyor frame.

Integrated Technology Resources, Inc.
(317) 757-5432
www.integratedtr.com

The connector in the left photo below is connected to the botton of the stunner control box. The wands are then plugged into the boxes mounted on each end of the V-conveyor platform (right photo).

Integrated Technology Resources, Inc.
(317) 757-5432
www.integratedtr.com

There are two wand cradles mounted to the platform that should be used to hold the wands when not in use.

Safety:

There are two Emergency Stop pushbuttons (ESTOP) and two Emergency Rope Pulls.
The pushbuttons are to be mounted on each of the inspection ladders.
The rope pulls are permanently mounted to each side of the V-conveyor.
If any of these 4 units are disconnected, cable cut, or activated, the system will not run.

If the system is in operation and any of these devices are activated, the conveyors will stop running and the power to the stunners will be disconnected.

You can stop the system any time by pushing in on an ESTOP or pulling on one of the ropes.

To reset the ESTOPs, twist the head of the button till it pops back out.

To reset the rope-pull, pull out on the blue knob.

Integrated Technology Resources, Inc.
(317) 757-5432
www.integratedtr.com

System Operation

The touch screen under the cover gives status under normal operating conditions. The only reason to open the cover would be to perform maintenance, reset faults, jog the conveyors, or to set speeds on the conveyors. The cover should remain closed to provide protection from accidental damage.

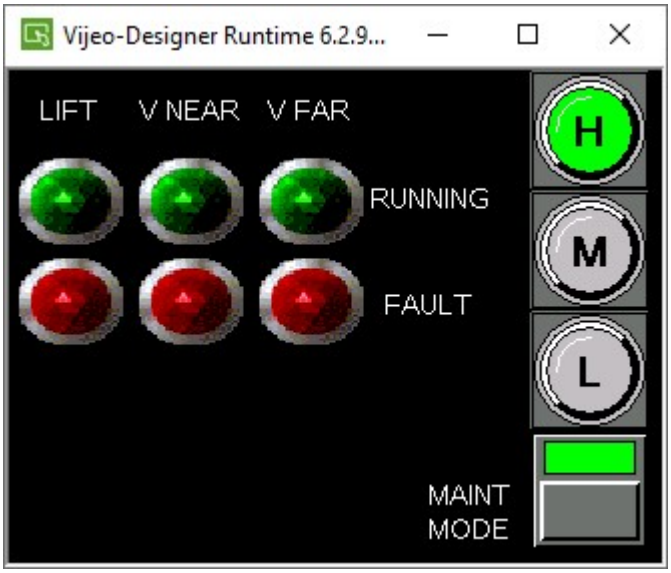
It should be noted that the Incline conveyor is shown as LIFT on the screen. VNEAR is the side of the V-conveyor closest to the platform. VFAR is the opposite side.

Normal starting and stopping of the system is accomplished by the red and green pushbuttons outside the cover.

The green pushbutton will start the system.
The red pushbutton will stop the system.

Integrated Technology Resources, Inc.
(317) 757-5432
www.integratedtr.com

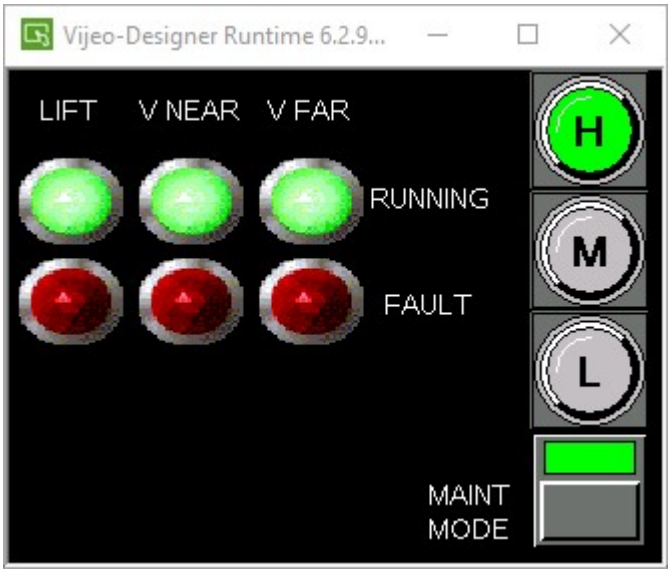
Normal screen with all conveyors stopped.



The speed of the system can be selected for
(H) High / (M) Medium / (L) Low
by pressing one of the buttons.

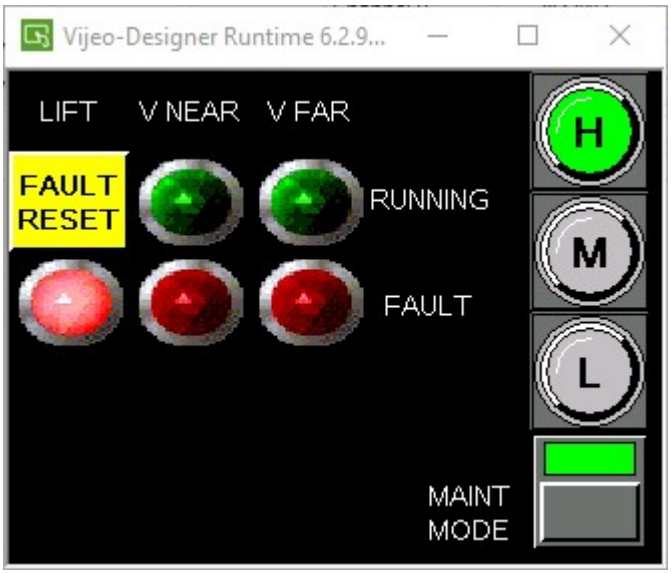
Maintenance mode may also be selected. Simply press the button next to the words MAINT MODE. Pressing the button again will put the system back into normal mode. Normal mode has a green indicator. MAINT mode has a red indicator.

Normal screen with all conveyors running.



Integrated Technology Resources, Inc.
(317) 757-5432
www.integratedtr.com

Normal screen with LIFT conveyor faulted



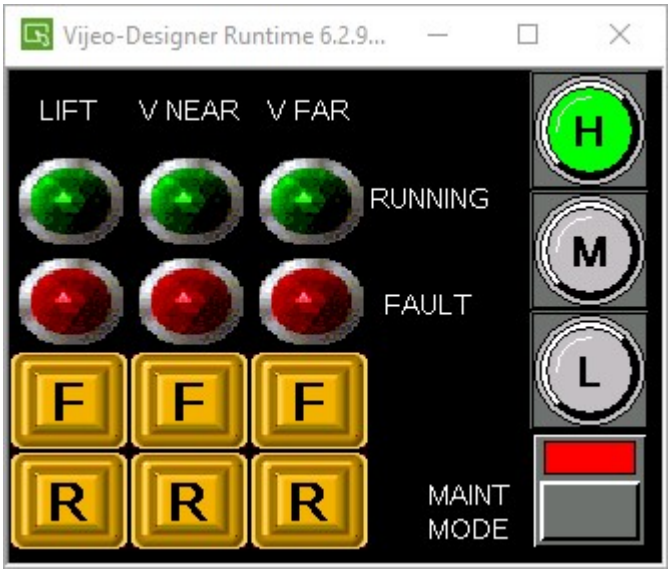
This is due to an overload of the variable speed drive. Once the cause of the fault has been cleared, the fault reset button must be pushed. Once the fault has been reset, the green start button is used to restart the system. The same is true for both of the V-conveyors as well.

Conveyors can fault if they have any of the following:

1) Load is too heavy – too many animals.
2) Conveyor needs lubricated.
3) Conveyor has a mechanical problem causing additional loading or binding.
4) Momentary drop in power.
5) Power phase loss.
6) Incline power plug has come loose.

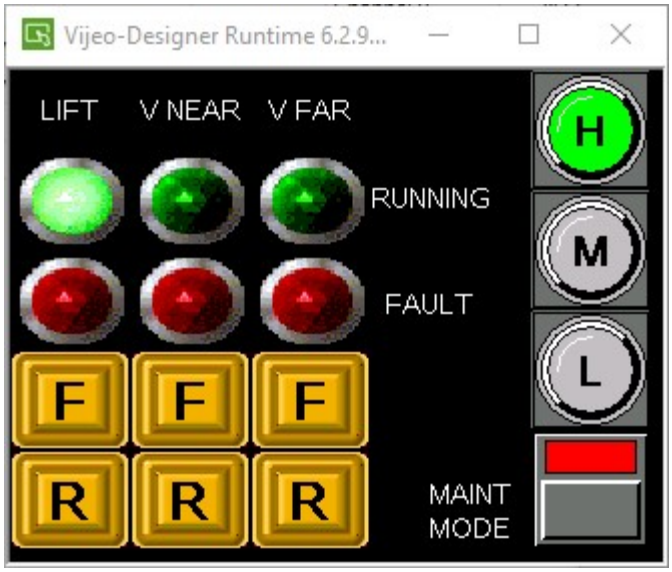
Integrated Technology Resources, Inc.
(317) 757-5432
www.integratedtr.com

Maintenance mode has been selected.



In this mode, the conveyors are jog only and will not run continuously. They can be jogged (F) Forward or (R) Reverse by holding the button.

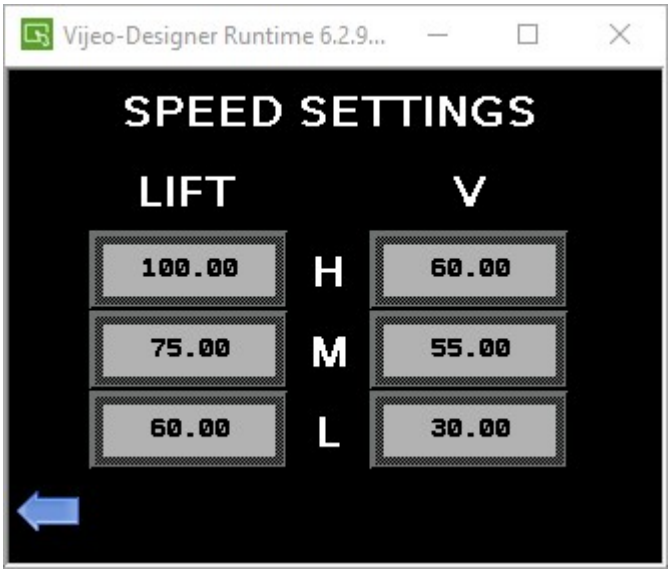
Maintenance mode has been selected.



The LIFT conveyor is being jogged.

Integrated Technology Resources, Inc.
(317) 757-5432
www.integratedtr.com

This is the speed setup for Lift and V-conveyors.



To get to this screen you must do the following:

1) Set system to Maint Mode
2) Press and hold the word RUNNING for 5 seconds.

Once in this screen, press the value you want to change.
These speed settings are 0-100%

Once you are done, press the blue back arrow.

Electrical Requirements

220VAC, 1 phase, 75A – 2 pole breaker

L1 – 220VAC – 6 AWG or larger – connection to disconnect

L2 – 220VAC – 6 AWG or larger – connection to disconnect

Neutral – 12AWG or larger – connection to the left of disconnect

Ground – 6AWG or larger – connection to the right of disconnect

Integrated Technology Resources, Inc.
(317) 757-5432
www.integratedtr.com

Setup Check List

- ☐ Decide on layout of operation - Incline and V-conveyor orientation: straight or 90-degree angle.
- ☐ Place Incline conveyor on solid, relatively flat, ground.
- ☐ Open V-conveyor entrance plate on bottom of Incline conveyor.
- ☐ Place V-conveyor on solid, relatively flat, ground feeding into Incline conveyor.
- ☐ Connect Incline conveyor power cable to main control panel.
- ☐ Assemble inspection ladders and place in desired location for inspection.
- ☐ Connect Estop pushbuttons to main control panel.
- ☐ Attach Estop pushbuttons to inspection ladder.
- ☐ Connect main control panel to electrical supply.
- ☐ Turn on control panel disconnect.
- ☐ In maintenance mode, jog each conveyor to verify operation.
- ☐ Exit Maint Mode and start conveyors running using green start button.
- ☐ Test Estop 1 - Press Estop on tall inspection ladder. Conveyors should stop.
- ☐ Reset Estop and start conveyors running using green start button.
- ☐ Test Estop 2 – Press Estop on short inspection ladder. Conveyors should stop.
- ☐ Reset Estop and start conveyors running using green start button.
- ☐ Test rope pull on back of platform by pulling rope. Conveyors should stop.
- ☐ Reset rope pull and start conveyors running using green start button.
- ☐ Test rope pull on front of V-conveyor (VFAR) by pulling rope. Conveyors should stop.
- ☐ Reset Estop and start conveyors running using green start button.
- ☐ Stop conveyors using red stop button.
- ☐ Hang stunner control boxes on brackets on back of platform.
- ☐ Plug in stunner control boxes.
- ☐ Plug in stunner wands.
- ☐ System is now ready for operation.

Integrated Technology Resources, Inc.
(317) 757-5432
www.integratedtr.com

Teardown Check List

- ☐ Stop conveyor system.
- ☐ Turn off main control panel disconnect.
- ☐ Unplug stunner wands and store for transport.
- ☐ Unplug stunner control boxes and remove from back of platform. Store for transport.
- ☐ Disconnect main control panel from electrical supply.
- ☐ Remove Estop pushbuttons to inspection ladder.
- ☐ Collapse inspection ladders and prepare for transport.
- ☐ Unplug Estops from main control panel. Wrap permanently attached cable on cable reel.
- ☐ Disconnect Incline conveyor power cable to main control panel. Wrap cable on cable reel on Incline conveyor.
- ☐ Move V-conveyor away from Incline conveyor.
- ☐ Close V-conveyor entrance plate on Incline conveyor and bolt in place.
- ☐ Load Incline conveyor onto trailer.
- ☐ Load V-conveyor onto trailer.
- ☐ Load inspection ladders onto trailer.
- ☐ Strap Incline conveyor to trailer with straps over the top of the conveyor.
- ☐ Strap V-conveyor to trailer with straps through the frame of the conveyor/platform.
- ☐ Strap inspection ladders.

Integrated Technology Resources, Inc.
(317) 757-5432
www.integratedtr.com

CUSTOMER TO SUPPLY
220 VAC, 1-PHASE, 60 Hz. + NEUTRAL

L2
L1
1-DISC
LOCKABLE DISCONNECT SWITCH
63 AMP
60
60
CLASS-J FUSE
FU-01 thru FU-02
4 AWG THHN WIRES
L1 L2
DISTRIBUTION BLOCK
9080LBA362104
175A

PLANT GROUND
GROUND BAR
(CONTROL PANEL)

NEUTRAL
N

VERISAFE
SENSING
L1 L2 L3 GND

MPCB112
30-40A
GV3P40
L1
1L3A
L2
6 AWG MTW WIRES
1L1A
1L2A
1L3A

VFD112
ATV320U75M3C
R/L1 S/L2 T/L3 PE
U/T1 V/T2 W/T3 PE
240V 1Ø, 40A IN
240V 3Ø, OUT

PIN AND SLEEVE

LIFT CONVEYOR
5.0 HP
1MTR 3PH 240V
5.0 HP AC MOTOR
(MAIN CONVEYOR)

MPCB122
9-16A
GV2P16
L1
2L3A
L2
12 AWG MTW WIRES
2L1A
2L2A
2L3A

VFD122
ATV320U07M2C
R/L1 S/L2 T/L3 PE
U/T1 V/T2 W/T3 PE
240V 1Ø, 16A IN
240V 3Ø, OUT

RESTRAINER #1
1.0 HP
2MTR 3PH 240V
1.0 HP AC MOTOR
(RESTRAINER #1)

MPCB132
9-16A
GV2P16
L1
3L3A
L2
12 AWG MTW WIRES
3L1A
3L2A
3L3A

VFD132
ATV320U07M2C
R/L1 S/L2 T/L3 PE
U/T1 V/T2 W/T3 PE
240V 1Ø, 16A IN
240V 3Ø, OUT

RESTRAINER #2
1.0 HP
3MTR 3PH 240V
1.0 HP AC MOTOR
(RESTRAINER #2)

138
138
L1 L2
CB143
1431
13
C234
14
WATERPROOF STRAIGHT PLUG
L N G
STUNNER #1
(CONTROL PANEL)

CB148
1481
23
C234
24
WATERPROOF STRAIGHT PLUG
L N G
STUNNER #2
(CONTROL PANEL)

CB152
1521
FAN1
L N
HF0916414

L
SOLA POWER SUPPLY
(CONTROL PANEL)
PSU157
N
+24V
COM

PLC160
TM3DM8G
349
MODBUS

MAGELIS HMISTU655
(OPERATOR STATION)

ETHERNET

201
201

ELECTRICAL LEGEND:
PANEL WIRING
FIELD WIRING
TERMINAL BLOCK
REFERENCE LINE MARKER
CR CONTROL RELAY
SSCR SOLID STATE CONTROL RELAY
PEC PHOTO-ELECTRIC CONTROL
PROX PROXIMITY SENSOR
SSTR SOLID STATE TIMER RELAY

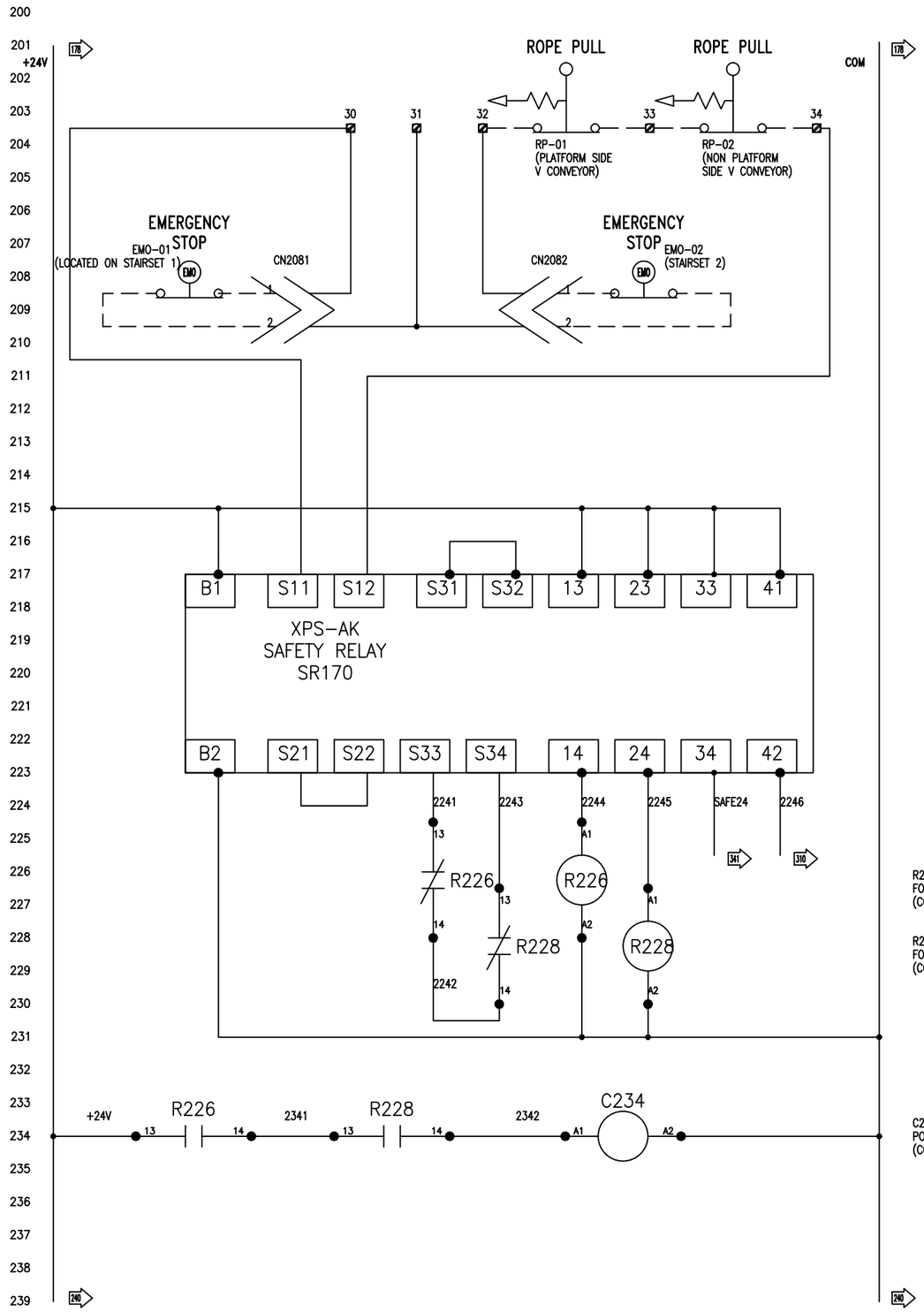
NO.	DATE	REVISION	BY

Integrated Technology Resc
2445 Directors Row, Suite J
Indianapolis, Indiana 46541

DRAWING INFORMATION
INDIANA PORK
UGLY BETTY

SCALE: 1:1 DATE: 09/16/20
DRAWING 2
ITR-5335-01
DES. BY: CMB
DR. BY: CMB
SHEET 01 OF 5
DRAWING SIZE: B

H:\Jobs - 5300\5335 - Pork Conveyor\ITR-5335-01.dwg, 9/16/2020 4:04:20 PM



R226
FORCE GUIDED RELAY OLESTRA
(CONTROL PANEL)

R228
FORCE GUIDED RELAY OLESTRA
(CONTROL PANEL)

C234
POWER RELAY 725BXXSC3ML-24D
(CONTROL PANEL)

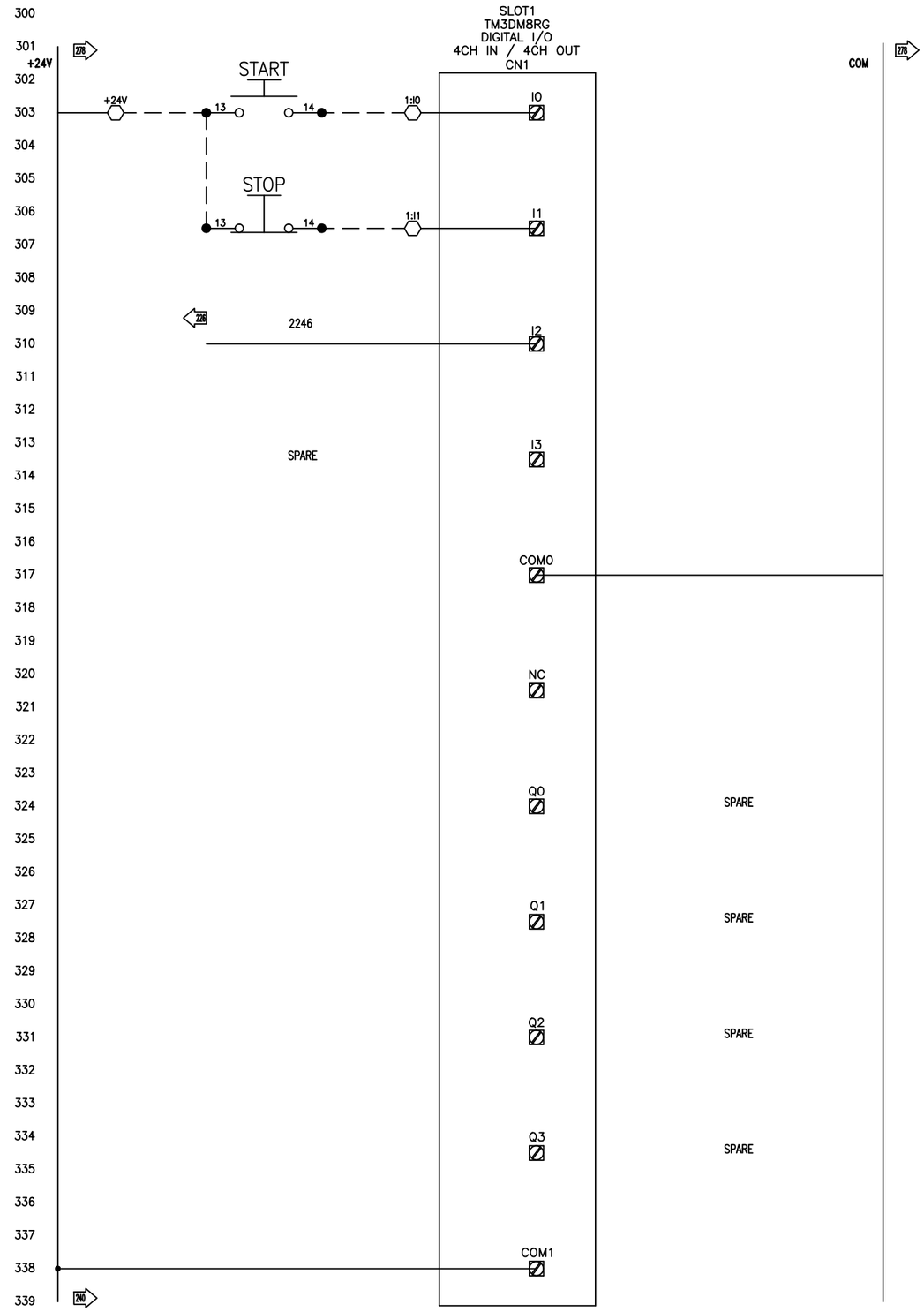
NO.	DATE	REVISION	BY

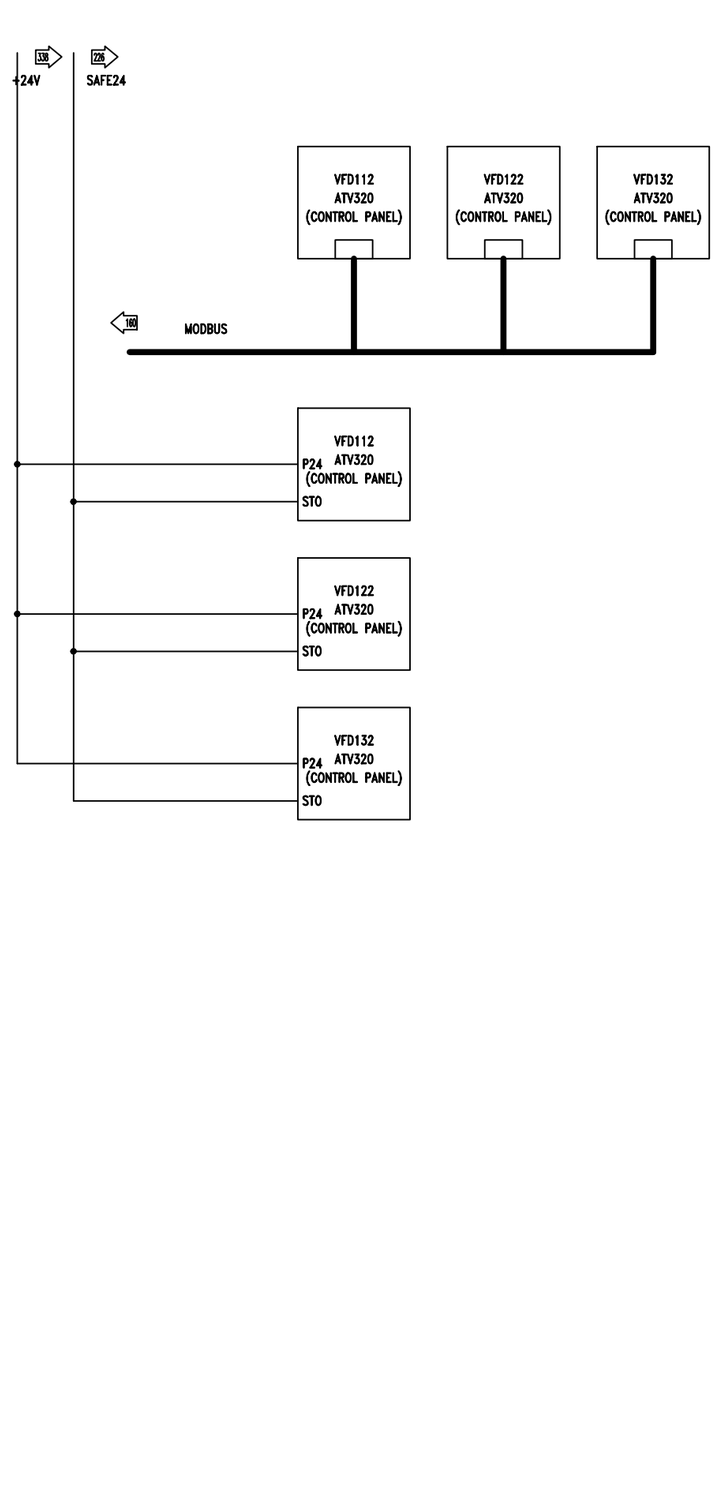
Integrated Technology Resc
2445 Directors Row, Suite J
Indianapolis, Indiana 46541

DRAWING INFORMATION
INDIANA PORK
UGLY BETTY

SCALE: 1:1 DATE: 09/14/20
DRAWING 2
ITR-5335-02
DES. BY: CMB
DR. BY: CMB
SHEET 02 OF 5
DRAWING SIZE: B

H:\Jobs - 5300\5335 - Pork Conveyor\ITR-5335-02.dwg, 9/16/2020 4:04:20 PM





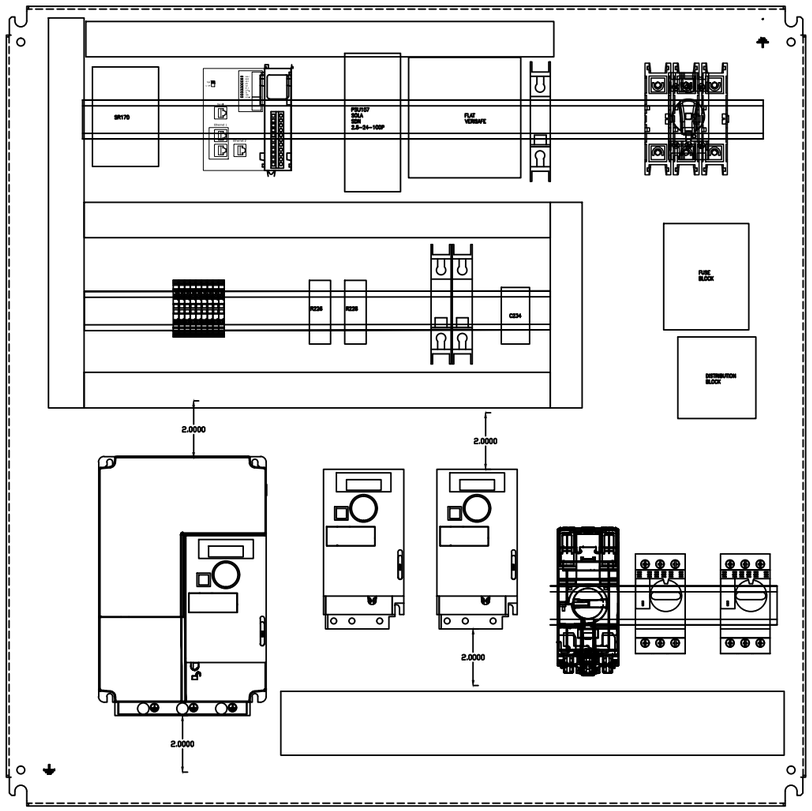
NO.	DATE	REVISION	BY

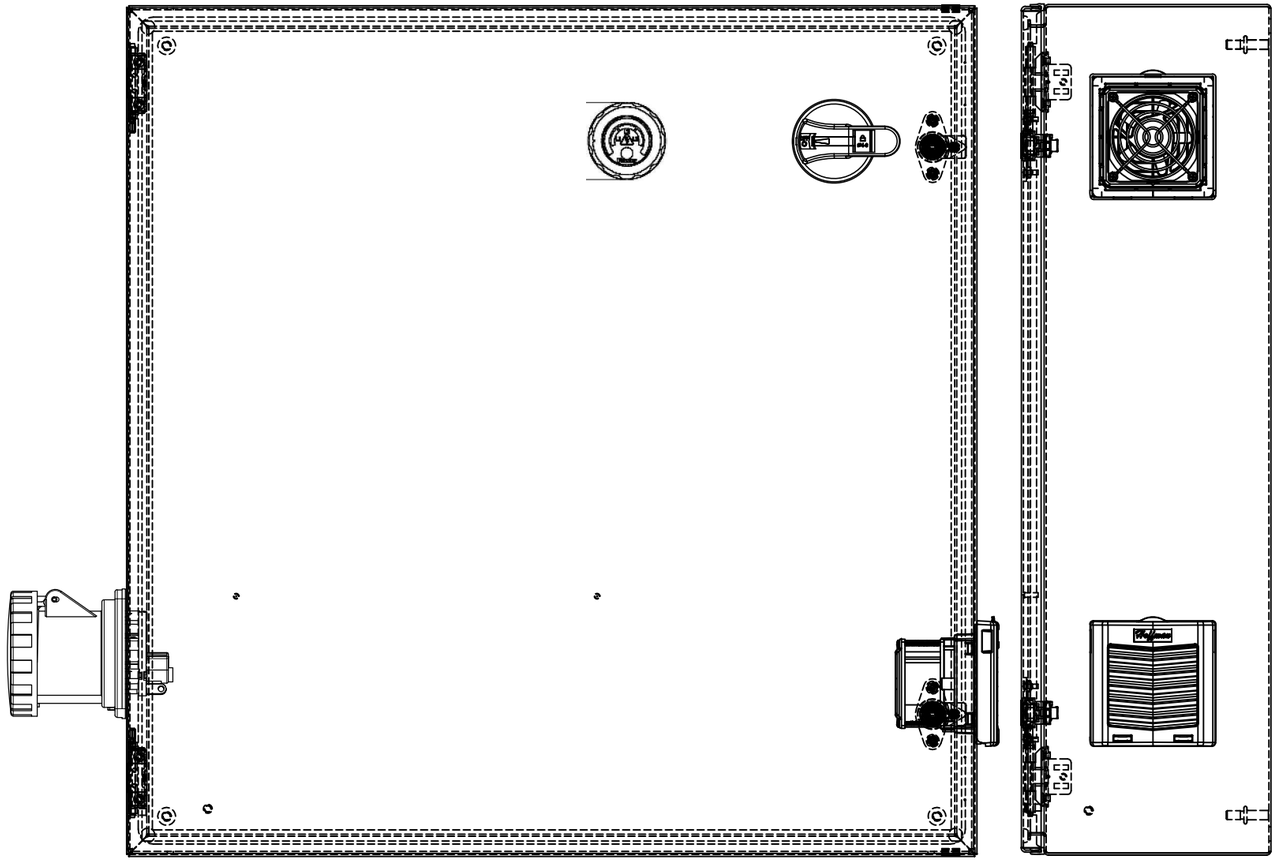
Integrated Technology Resc
2445 Directors Row, Suite J
Indianapolis, Indiana 46541

DRAWING INFORMATION
INDIANA PORK
UGLY BETTY

SCALE: 1:1 | DATE: 09/14/20
DRAWING 2
ITR-5335-03
DES. BY: CMB
DR. BY: CMB
SHEET 03 OF 5
DRAWING SIZE: B

H:\Jobs - 5300\5335 - Pork Conveyor\ITR-5335-03.dwg, 9/16/2020 4:04:20 PM





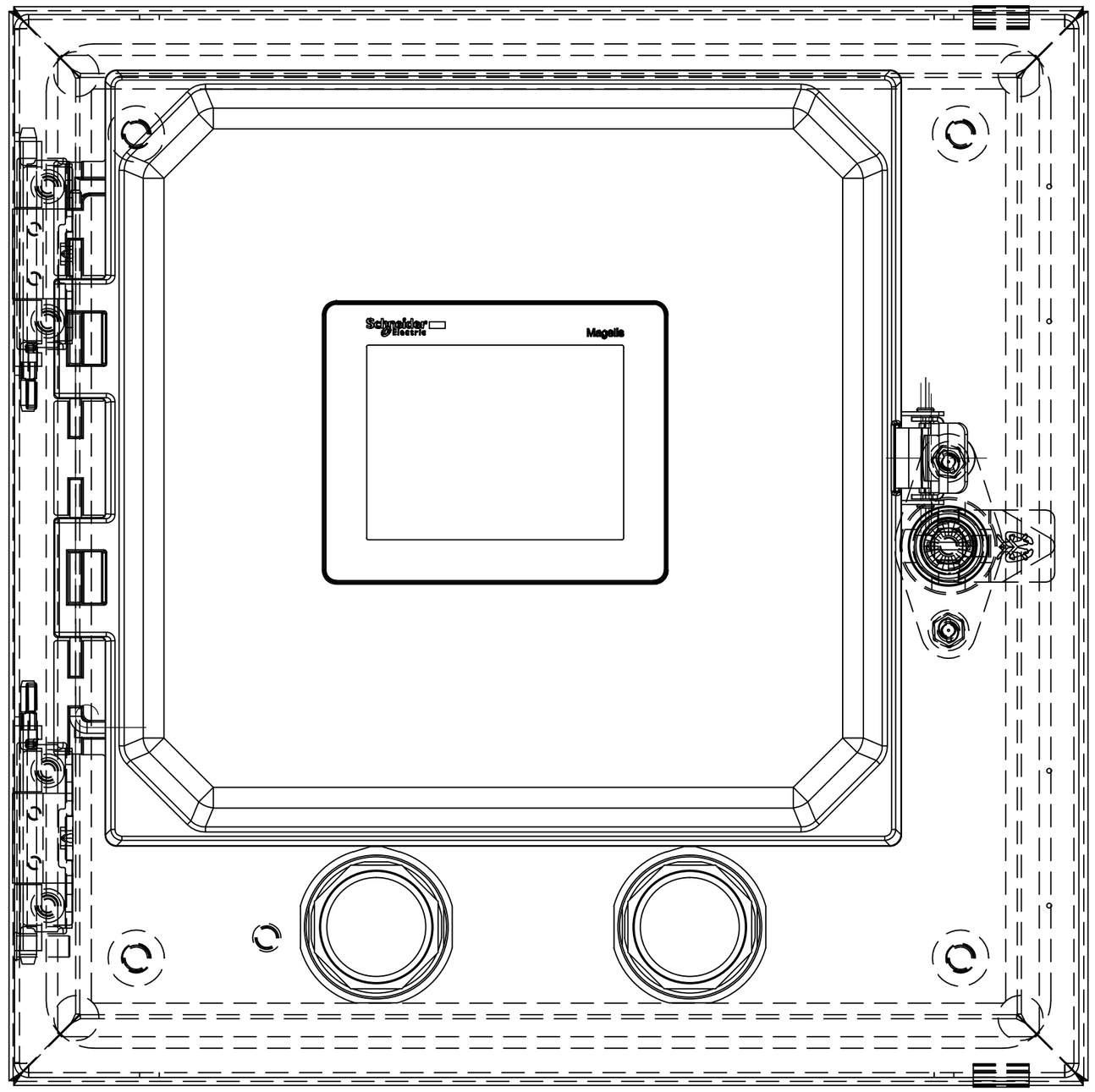
NO.	DATE	REVISION	BY

Integrated Technology Resc
2445 Directors Row, Suite J
Indianapolis, Indiana 46541

DRAWING INFORMATION
INDIANA PORK
UGLY BETTY

SCALE: 1:1 | DATE: 09/16/20 | DES. BY: CMB
DRAWING 2
ITR-5335-04
DR. BY: CMB
SHEET 04 OF 5 | DRAWING SIZE: B

H:\Jobs - 5300\5335 - Pork Conveyor\ITR-5335-04.dwg, 9/16/2020 4:04:21 PM



NO.	DATE	REVISION	BY

Integrated Technology Resc
2445 Directors Row, Suite J
Indianapolis, Indiana 46541

DRAWING INFORMATION
INDIANA PORK
UGLY BETTY

SCALE: 1:1 | DATE: 09/14/20
DRAWING 2
ITR-5335-05

DES. BY: CMB
DR. BY: CMB
SHEET 05 OF 5
DRAWING SIZE: B

H:\Jobs - 5300\5335 - Pork Conveyor\ITR-5335-05.dwg, 9/16/2020 4:04:21 PM