ADDENDUM 01

17-JUN-2026

SB840 – Wiekamp Hall Replace Cooling Tower
Indiana University – South Bend
IU 20250610

Mussett, Nicholas & Associates, Inc.
502 S. West St
Indianapolis, IN 46225
MNA Commission No.: 2026023

TO ALL HOLDERS OF PROCUREMENT DOCUMENTS

This Addendum forms a part of the Contract Documents and modifies the original Procurement Documents dated 04-JUN-2026 and any previously issued Addenda, as noted below.

PREBID MEETING

Item No. 1 Attendance:

A. See attached attendance sheet.

Item No. 2 Discussion:

A. Cooling tower flow control valves will require 120V connection.

RESPONSES TO QUESTIONS RECEIVED

Item No. 1 Where is an acceptable lay-down area to store devices and equipment.

1. The mechanical room down the hallway can be used for storage and laydown inside Wiekamp hall.

Item No. 2 Are there any specific blackout dates for crane lifts?

A. There are not any current blackout dates.
B. Location and time of lifts must be coordinated with IU.

Item No. 3 Are there dates for substantial completion and final completion?

A. Substantial completion and final completion date are one in the same for this project.
B. These are defined in the front end specifications.

CHANGES TO DRAWINGS

Item No. 1 Cover

A. Added M600.

Item No. 2 Sheet M600: Instrument Symbols & Legend

A. New sheet.

Item No. 3 JCI Drawing Package:

A. New set of drawings.

By: Kenneth Parson

Attachments: Listed above.

END OF ADDENDUM 01

MUSSETT NICHOLAS
ASSOCIATES
ENGINEERS + ARCHITECTS

MEETING SIGN-IN

MNA Project #: 2026023 Project: IUSB Wiekamp - Cooling Tower Replacement

Meeting Date: June 11, 2026 Meeting Location: IUSB Wiekamp Hall

Meeting Purpose:

NAME	COMPANY	PHONE	EMAIL
Kenny Parson	MNA	(317)-936-7155	kparson@m-n-a.com
Kevin Kozlowski	Ideal	574-292-1228	IKKozlowski@idealgroupinc.com
Norm Cupp	Jergens	269-816-4604	NormCupp@Jergenspiping.com
Chris Grove	Grove ES	574-800-9432	cgrove@groveelectricalservices.com
Phil Ashton	H&G	574-217-5378	PAshton@HGservices.com
Eric Manson	H&G	574-876-2272	emanson@hgservices.com
Eric Buchholtz	IUSB Facilities	574-621-0151	ebucholt@iu.edu
Brian Klaum	IU CM	317-946-4530	BDKlaum@IU.EDU
Trach Hertel	D.A. Dodd	574-274-1541	TrachHertel@DADODO.com
Jacob Miller	D.A. DODD	219-229-0725	jacobmiller@dadodd.com
Ken McKnight	IU	317-201-5336	kmcknigh@iu.edu

INDIANA UNIVERSITY SOUTH BEND

WIEKAMP HALL COOLING TOWER REPLACEMENT
SOUTH BEND, INDIANA

PROJECT NO. IU 20250610

ADDENDUM 01
06-17-2026

SHEET LIST

MECHANICAL DRAWINGS

ELECTRICAL DRAWINGS

MUSSETT NICHOLAS ASSOCIATES
ENGINEERS + ARCHITECTS
502 South West Street
Indianapolis, Indiana 46225
317.631.9241
5510 Six Forks Road, Suite 270
Raleigh, North Carolina 27609
919.703.4028

Certified by

INDIANA UNIVERSITY - SOUTH BEND
COOLING TOWER REPLACEMENT
Indiana University Indianapolis
Indianapolis, IN 46516
IU # 20250610

MARK	DATE	DESCRIPTION
1	06/17/26	ADDENDUM 01
0	06/04/26	ISSUE FOR BID

REVISION BLOCK

PROJECT NO: 2026023
DATE: 06/04/2026
DRAWN BY: KNE
CHECKED BY: JES

COPYRIGHT 2026
MUSSETT, NICHOLAS & ASSOCIATES, INC.

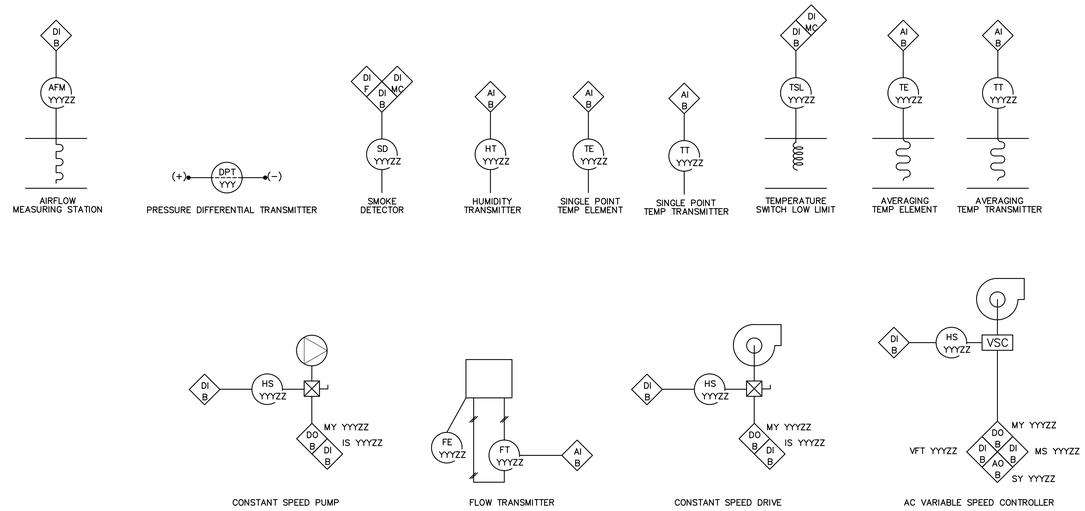
SHEET TITLE:

COVER SHEET

COVER

6/15/2026 10:44:18 AM G:\Shared\Projects\2026\023\3 - Design\3.05 - Drawing Files\3.05.1 - Working Drawings\COVER.dwg

AF & ID STANDARD SYMBOLS



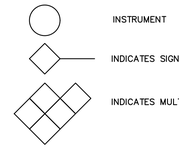
INSTRUMENT TAG PREFIXES (XXX)

DESIGNATION	DESCRIPTION	DESIGNATION	DESCRIPTION
AA	AUDIBLE ALARM	PSL	PRESSURE SWITCH LOW
AE	ANALYTICAL ELEMENT	PT	PRESSURE TRANSMITTER
AFM	AIRFLOW MEASURING STATION	PYD	PRESSURE CONTROL DAMPER RELAY
AIT	ANALYTICAL INDICATING TRANSMITTER	PYV	PRESSURE CONTROL VALVE RELAY
AT	ANALYTICAL TRANSMITTER	PZD	PRESSURE CONTROL DAMPER FEEDBACK
CV	CONTROL VALVE	PZV	PRESSURE CONTROL VALVE FEEDBACK
CO	CARBON MONOXIDE	REF	REFRIGERANT
CO2	CARBON DIOXIDE	SC	SPEED CONTROLLER
DA	DAMPER ACTUATOR	SD	SMOKE DETECTOR
DEW	DEW POINT	SV	SOLENOID VALVE
DPT	DIFFERENTIAL PRESSURE TRANSMITTER	SY	SPEED/FREQUENCY RELAY
FCD	FLOW CONTROL DAMPER	SZ	SPEED/FREQUENCY FEEDBACK
FCV	FLOW CONTROL VALVE	TCD	TEMPERATURE CONTROL DAMPER
FE	FLOW ELEMENT	TCV	TEMPERATURE CONTROL VALVE
FI	FLOW INDICATOR	TE	TEMPERATURE ELEMENT
FIT	FLOW INDICATING TRANSMITTER	TIT	TEMPERATURE INDICATING TRANSMITTER
FQT	FLOW TRANSMITTER (RATE & TOTALIZING)	TS	THERMOSTAT
FS	FLOW SWITCH	TSH	TEMPERATURE SWITCH HIGH
FT	FLOW TRANSMITTER (RATE)	TSL	TEMPERATURE SWITCH LOW
FYD	FLOW CONTROL DAMPER RELAY	TT	TEMPERATURE TRANSMITTER
FYV	FLOW CONTROL VALVE RELAY	TYD	TEMPERATURE CONTROL DAMPER RELAY
HCD	HUMIDITY CONTROLLER DAMPER	TYV	TEMPERATURE CONTROL VALVE RELAY
HCH	HUMIDITY CONTROLLER HIGH LIMIT	VFT	VARIABLE FREQUENCY DRIVE FAULT TRIP
HCV	HUMIDITY CONTROL VALVE	VIT	VIBRATION INDICATING TRANSMITTER
HIT	HUMIDITY INDICATING TRANSMITTER	VS	VIBRATION SWITCH
HS	HAND SWITCH	VSC	VARIABLE SPEED CONTROLLER
HT	HUMIDITY TRANSMITTER	VT	VIBRATION TRANSMITTER
HYV	HUMIDITY CONTROL VALVE RELAY	ZS	LIMIT/POSITION SWITCH
IE	CURRENT ELEMENT	ZSC	LIMIT/POSITION SWITCH CLOSED
II	CURRENT INDICATOR	ZSH	LIMIT/POSITION SWITCH/VALVE HIGH (OPEN)
IS	CURRENT SWITCH	ZSL	LIMIT/POSITION SWITCH/VALVE LOW (CLOSED)
IT	CURRENT TRANSMITTER	ZSO	LIMIT/POSITION SWITCH OPEN
LE	LEVEL ELEMENT	ZZ	POSITION FEEDBACK
LI	LEVEL INDICATOR		
LIT	LEVEL INDICATING TRANSMITTER		
LS	LEVEL SWITCH		
LSH	LEVEL SWITCH HIGH		
LSL	LEVEL SWITCH LOW		
LT	LEVEL TRANSMITTER		
MC	MOTOR CONTROL		
MD	MOTION DETECTOR		
MS	MOTOR STATUS		
MY	MOTOR RELAY		
PCD	PRESSURE CONTROL DAMPER		
PCV	PRESSURE CONTROL VALVE		
PDS	PRESSURE DIFFERENTIAL SWITCH		
PE	PRESSURE ELEMENT		
PIT	PRESSURE INDICATING TRANSMITTER		
PRV	PRESSURE REGULATING VALVE		
PS	PRESSURE SWITCH		
PSH	PRESSURE SWITCH HIGH		

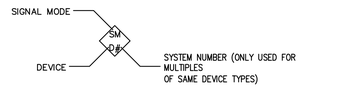
INSTRUMENT TAG SUFFIXES SYSTEM IDENTIFIERS (ZZ)

DESIGNATION	DESCRIPTION	DESIGNATION	DESCRIPTION
CC	COOLING COIL	NP	NON-POTABLE WATER
CD	COLD DECK	OA	OUTSIDE AIR
CR	CHILLED WATER RETURN	PH	PREHEAT
CS	CHILLED WATER SUPPLY	PP	PREHEAT COIL PUMP
DH	DEHUMIDIFICATION SYSTEM	PW	PROCESS WASTE
DW	DOMESTIC WATER	RA	RETURN AIR
EF	EXHAUST FAN	RC	REACTIVATION
EX	EXHAUST AIR	RF	RELIEF AIR
FB	FILTER BANK	RH	REHEAT
GR	GLYCOL RETURN	RM	ROOM
GS	GLYCOL SUPPLY	SA	SUPPLY AIR
HC	HEATING COIL	SF	SUPPLY FAN
HD	HOT DECK	SS	STEAM SUPPLY
HR	HOT WATER RETURN	SW	SANITARY WASTE
HS	HOT WATER SUPPLY	TA	TRANSFER AIR
IW	INDUSTRIAL WASTE	TR	TOWER WATER RETURN
MA	MIXED AIR	TS	TOWER WATER SUPPLY
MU	MAKEUP AIR	Zn	ZONE (n=1,2,3, etc.)

INSTRUMENT SYMBOLS



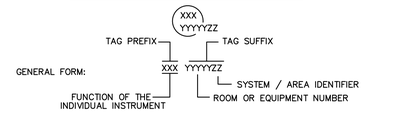
SIGNAL TYPE AND CONTROL DEVICE DESIGNATOR



SIGNAL MODES
AI = ANALOG INPUT
AO = ANALOG OUTPUT
DI = DISCRETE INPUT
DO = DISCRETE OUTPUT

DEVICES
B = BUILDING MANAGEMENT SYSTEM
C = PROCESS OR UTILITY MANAGEMENT SYSTEM
F = FIRE ALARM OR ACCESS CONTROL SYSTEM
MC = MOTOR CONTROLLER
P = PROGRAMMABLE LOGIC CONTROLLER
SI = SAFETY INSTRUMENTED SYSTEM

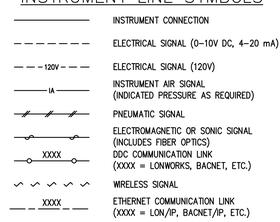
TAG NUMBERING SYSTEM



TYPICAL TAG: TCV-001-PH — TCV TEMPERATURE CONTROL VALVE; 001 AHU-001; PH PREHEAT

FCD-001-OA — FCD FLOW CONTROL DAMPER; 001 AIR HANDLER AHU-001

INSTRUMENT LINE SYMBOLS



LINE NUMBERING CODE-PIPING

GENERAL SYMBOLS

PACKAGED EQUIPMENT BOUNDARIES

MUSSETT NICHOLAS ASSOCIATES
ENGINEERS + ARCHITECTS
502 South West Street
Indianapolis, Indiana 46225
317.631.9241
5510 Six Forks Road, Suite 270
Raleigh, North Carolina 27609
919.703.4028

Certified by

INDIANA UNIVERSITY - SOUTH BEND
COOLING TOWER REPLACEMENT
Indiana University Indianapolis
Indianapolis, IN 46516
IU # 20250610

MARK	DATE	DESCRIPTION
0	06/17/26	ADDENDUM 01

REVISION BLOCK

PROJECT NO: 2026023
DATE:
DRAWN BY: KNE
CHECKED BY: ATW

COPYRIGHT 2026
MUSSETT, NICHOLAS & ASSOCIATES, INC.

SHEET TITLE:

INSTRUMENT SYMBOLS & LEGENDS

M600

6/15/2026 10:43:42 AM G:\Shared\Projects\2026023\3 - Design\3.05 - Drawing Files\3.05.1 - Working Drawings\M600.dwg

IUSB Wiekamp Hall Clg Twr DESIGN ONLY 20250610
6N02-0321

Page	Description
00.00-00	Title Page
00.01-00	BACnet Architecture
00.02-00	Installation Reference
00.10-00	Network Schedule
00.11-00	Network Layout
02.00-00	Chilled Water System Flow Layout
02.00-01	Chilled Water System Old Controller Point Schedule
02.00-02	Chilled Water System New Controller Point Schedule
02.00-03	Chilled Water System Wiring Details

BID DESIGN SET
06/12/2026

Johnson Controls

Creating a better climate for business.

- ☐ **Environmental Control System**
- ☐ **Facility Management System**
- ☐ **Air and Water System Balancing**
- ☐ **Fire Management System**
- ☐ **Security System**
- ☐ **Lighting Services**
- ☐ **Instrumentation System Installation**
- ☐ **Building Operations Management**
- ☐ **Energy Conservation Control**
- ☐ **Training Programs**
- ☐ **Performance Contracting**
- ☐ **Planned Service Agreements**

Air Conditioning
Heating
Diagnostic Services
Coil Cleaning
Refrigeration
Automatic Temperature Controls
Facility Management Systems
Fire Management
Security Management
Building Operations and Management
Water Treatment
Electrical Equipment
Emergency Generator / Lighting Equipment
Industrial Controls / Recording / Indication Equipment

PROJECT TITLE

IUSB Wiekamp Hall Clg Twr DESIGN ONLY 20250610

ARCHITECT	ENGINEER
, **Phone:**	, **Phone:**
MECHANICAL CONTRACTOR	**ELECTRICAL CONTRACTOR**

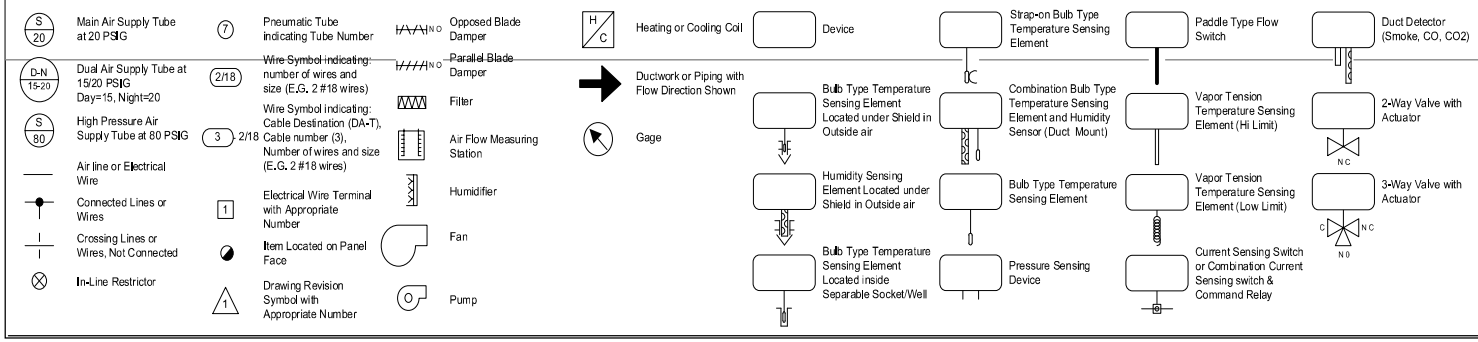
REFERENCE DRAWING	NO.	REVISION-LOCATION	ECN	DATE	BY

Johnson Controls

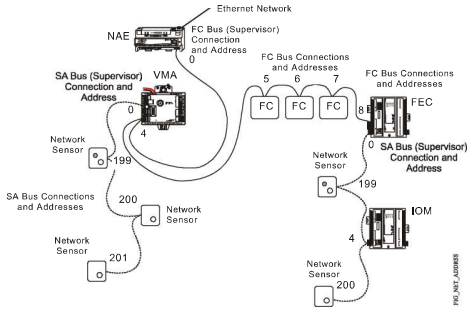
Branch Information
Johnson Controls, Inc.
1500 Huntington Drive
Calumet City, IL 60409
Phone: (708) 828-3421
Fax: (708) 474-6551

SALES ENGINEER	PROJECT MANAGER	APPLICATION ENGINEER	DATE	CONTRACT NUMBER
Mary Pullo	Jeffrey S Loupee	Farzana Mahbub	5/22/2026	6N02-0321

LEGEND



BACNET Architecture



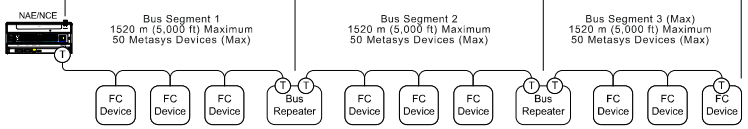
FC/SA BUS SPECIFICATIONS

Data Transmission Standard: RS-485
Signaling Method: BACnet MS/TP
Signaling Rate: 38,400 baud (recommended)

Address Value/ Address Range	Class	Devices
0	Bus Supervisor	FC Bus: NAE or NCE SA Bus: FECs, VMA16s, or NCE
1	Reserved	Wireless Commissioning Converter (MS-BTCVT-1)
2	Reserved	ZFR1810 Wireless Field Bus Coordinator
3	Reserved	DIS1710 Local Controller Display
4-127	Master Range	FC Bus: FECs, VMA16s, IOMs, and TEC26xx SA Bus: IOMs Note: On applications using an NCE, the address value 4 is reserved for the NCE's integral field controller. On applications using ZFR1810 coordinators, address values 120 to 127 are reserved for multiple coordinators.
128-131	Slave	FECs/IOMs/VMAs - Devices operate as MS/TP slave in this range
132-255	Reserved	FECs/IOMs/VMAs - Wireless mode with address range of 4-127 and bit 128 active
128-254	Slave Range	Slave devices, VSDs, and NS network sensors on the SA Bus
198	Reserved	VAV Balancing Sensor (handheld)
199	Reserved	Most NS Series Network Sensor models or VAV Balancing Sensor (wall-mounted)
200-203	Reserved	NS Series Network Sensors (specified models)
204-211	Reserved	NS-DTN7043-0 and NS-DTN7083-0 Network Sensors
212-219	Reserved	NS-BCN7004-0 Network CO2 Sensor
255	Broadcast	Do not apply address 255 to any device

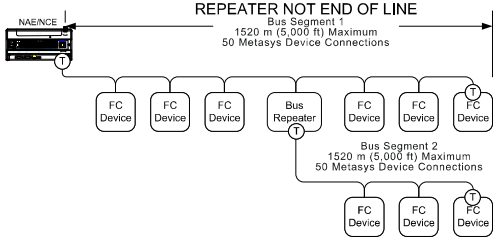
FC BUS BUS EXAMPLES

SCENERIO 1
MAXIMUM TRUNK DISTANCE
4570 m (15,000 ft) Maximum
100 Total Metasys FC Devices (Maximum)

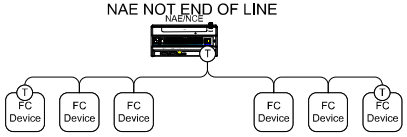


Note: When TEC26xx Series thermostats or third-party MS/TP devices are connected to an FC Bus, a bus segment only supports 32 devices (Max) and the FC Bus supports only 64 devices (Max).

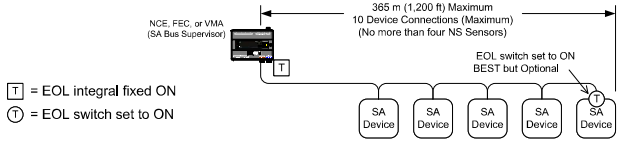
SCENERIO 2
REPEATER NOT END OF LINE



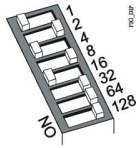
SCENERIO 3
NAE NOT END OF LINE



SA BUS EXAMPLE



ADDRESS SWITCH



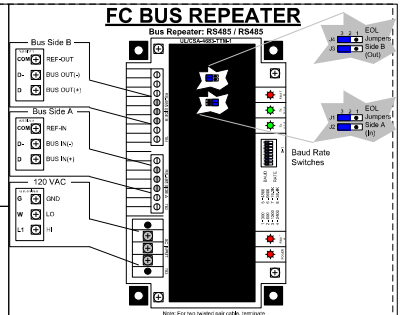
Address 21 shown above

EOL SWITCH

NOTE:
END-OF-LINE TERMINATION IS REQUIRED ON ALL FC AND SA BUSES.

REFER TO THE MS/TP COMMUNICATIONS BUS TECHNICAL BULLETIN (LIT-12011034) FOR EOL TERMINATION GUIDELINES

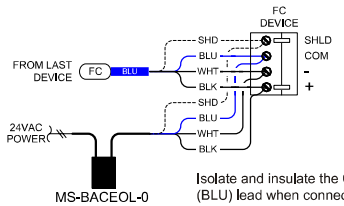
FC BUS REPEATER



Side	Jumper	Instructions
Side A	J1 and J2	If at end-of-line, install both jumpers over Pins 1 and 2 (EOL In).
		If not at end-of-line, install both jumpers over Pins 2 and 3 (EOL Out).
Side B	J3 and J4	If at end-of-line, install both jumpers over Pins 1 and 2 (EOL In).
		If not at end-of-line, install both jumpers over Pins 2 and 3 (EOL Out).

EOL TERMINATOR

NOTE: PLACE JCI MS/TP DEVICE AT EOL WHEN POSSIBLE OR USE MS-BACEOL-0 AT END DEVICE.



Isolate and insulate the COM (BLU) lead when connecting the EOL to third-party devices with only + and - terminals.

Copyright Johnson Controls, 2024.
All rights reserved.
Reuse, copying, modification or alteration of the drawings and other information contained herein is strictly prohibited.

Drawing Title
BACNET Architecture

Project Title
IUSB Wiekamp Hall Clg Twr
DESIGN ONLY 20250610

REFERENCE DRAWING	NO.	REVISION-LOCATION	ECN	DATE	BY

Sales Engineer	Project Manager	Application Engineer	DRAWN		APPROVED	
MP		FM	BY	DATE 5/8/2026	BY	DATE 5/8/2026

Johnson Controls

Branch Information
Johnson Controls, Inc.
1500 Huntington Drive
Calumet City, IL 60409
Phone: (708) 828-3421
Fax: (708) 474-6551

CONTRACT NUMBER
6N02-0321

DRAWING NUMBER
00.01-00

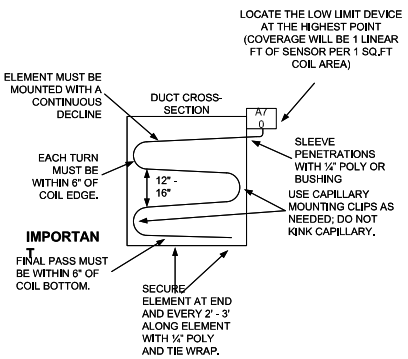
INSTALLATION REFERENCE

DAMPER PRE-LOADING INSTRUCTIONS

1. ROTATE THE DAMPER BLADE(S) TO THE DESIRED POSITION IF THE POWER IS LOST. TO ENSURE A TIGHT SEAL, INSERT THE MANUAL OVERRIDE CRANK AND TURN IT IN THE DIRECTION INDICATED BY THE ARROW ON THE LABEL 5 TURNS; THE POSITION INDICATOR SHOULD BE NEAR THE 0° POSITION ON THE SCALE. QUICKLY ROTATE THE MANUAL OVERRIDE CRANK A HALF TURN IN THE OPPOSITE DIRECTION TO TEMPORARILY LOCK THE ACTUATOR HUB IN PLACE.
2. EVENLY HAND TIGHTEN EACH CLAMP NUT ONTO THE U-BOLT, KEEPING THE ACTUATOR FLAT. SECURE THE U-BOLT TO THE DAMPER SHAFT AND TIGHTEN TO A TORQUE OF 100 TO 125 LB·IN (11 TO 14 N·M).
3. TO RELEASE THE SPRING, TURN THE MANUAL OVERRIDE CRANK IN THE DIRECTION INDICATED ON THE LABEL; THE ACTUATOR SPRING RETURNS TO ITS STARTING POSITION. IF THIS STEP IS OMITTED, THE SPRING RELEASES AUTOMATICALLY WHEN POWER IS APPLIED TO THE ACTUATOR.
4. REMOVE THE MANUAL OVERRIDE CRANK AND STORE IT IN AN UNUSED MOUNTING HOLE.
5. APPLY POWER LONG ENOUGH FOR THE ACTUATOR TO TRAVEL A FULL STROKE, AND VERIFY THAT THE ACTUATOR ROTATES FREELY THROUGHOUT THE RANGE.

   NOTE: IF ELECTRIC POWER IS NOT AVAILABLE, COMPLETE THIS VERIFICATION BY REINSERTING THE MANUAL OVERRIDE CRANK AND TURNING IT IN THE DIRECTION INDICATED TO ROTATE THE COUPLER TO THE FULLY OPEN POSITION.

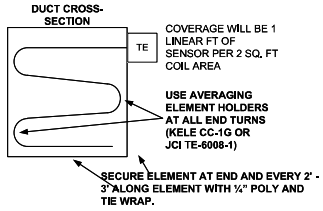
LOW LIMIT INSTALLATION



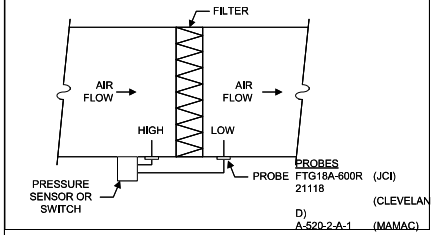
MOUNTING MATERIAL (KELE)

M-648 MAX	CAP. MTG. CLIP 1/8"
CC-1G MAX	CAP. MTG. CLIP 3/8"
M-633	MID DUCT SUPPORT MTG.

AVERAGING ELEMENT INSTALLATION



FILTER DP MOUNTING DETAIL



PROBES

FTG18A-600R 21118	(JCI)	
D) A-520-2-A-1	(MAMAC)	

Copyright Johnson Controls, 2024.
All rights reserved.
Reuse, copying, modification or alteration of the drawings and other information contained herein is strictly prohibited.

Drawing Title
Installation Reference

REFERENCE DRAWING	NO.	REVISION-LOCATION	ECN	DATE	BY

Sales Engineer	Project Manager	Application Engineer	DRAWN		APPROVED	
MP		FM	BY	DATE 5/8/2026	BY	DATE 5/8/2026

Project Title
IUSB Wiekamp Hall Clg Twr
DESIGN ONLY 20250610

Johnson Controls

Branch Information
Johnson Controls, Inc.
1500 Huntington Drive
Calumet City, IL 60409
Phone: (708) 828-3421
Fax: (708) 474-6551

CONTRACT NUMBER
6N02-0321

DRAWING NUMBER
00.02-00

Network Schedule

NETWORK DETAILS			IUSB Wiekamp Hall Clg Twr DESIGN ONLY 20250610							
ENGINE #	ENGINE ID	LOCATION	ENGINE TYPE	TRUNK NAME	TRUNK INSTANCE #	MAC ADDRESS	IP ADDRESS	SUBNET MASK	GATEWAY	NOTES
SERVER	TBD	TBD	VIRTUAL	NA	NA	NA	TBD	TBD	TBD	EXISTING SERVER
TBD	SNE-xx	TBD	M4-SNE-xx	FC-xx	TBD	TBD	TBD	TBD	TBD	EXISTING ENGINE

1

NOTES:
1. FIELD VERIFY ENGINE TO BE USED.

Copyright Johnson Controls, 2025.
All rights reserved.
Reuse, copying, modification or alteration of the drawings and other information contained herein is strictly prohibited.

Drawing Title
Network Schedule

Project Title
IUSB Wiekamp Hall Clg Twr DESIGN ONLY 20250610

REFERENCE DRAWING	NO.	REVISION-LOCATION	ECN	DATE	BY

Sales Engineer	Project Manager	Application Engineer	DRAWN		APPROVED	
MP		FM	BY	DATE 5/8/2026	BY	DATE 5/8/2026

Johnson Controls

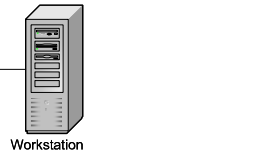
Branch Information
BSNA - CALUMET CITY
1500 HUNTINGTON DR,
CALUMET CITY, Illinois
60409
Phone: 7084741717

CONTRACT NUMBER
6N02-0321

DRAWING NUMBER
00.10-00

Network Layout

BAS SYSTEM



FC-xx

RC-1

LOCATION: TBD
IP: TBD
SM: TBD
Gateway: TBD

1

Device Name	Controller	MSTP Addr
CHILLED WATER/CONDENSER WATER SYSTEM	M4-CGM09090-0	TBA
CWP1-VFD	3rd Party Device	TBA
CWP2-VFD	3rd Party Device	TBA
CWP3-VFD	3rd Party Device	TBA
CT1-VFD	3rd Party Device	TBA
CT2-VFD	3rd Party Device	TBA EOL

NOTES:
1. FIELD VERIFY ADDRESSES AND ENGINE. ADDRESSES AND ENGINE USED WILL BE INDICATED ON AS-BUILTS.

LEGEND

EXISTING/ BY OTHERS

NEW BY JCI

EOL = DENOTES INTERNAL END-OF-LINE TERMINATION SET ON THIS DEVICE

XEOL = DENOTES EXTERNAL END-OF-LINE TERMINATOR (MS-BACEOL-0) REQUIRED ON THIS DEVICE

CAT5 ETHERNET JACK (BY OWNER)

FC / SA BUS CABLE ---------- RS-485 COMM CABLE ----------

CAT5 ETHERNET - - - - - - -

SENSOR CABLE · — — —

DEVICES ARE SHOWN IN ANTICIPATED ORDER OF CONNECTION.
IF CONNECTION ORDER IS CHANGED, INSTALLING CONTRACTOR MUST DOCUMENT FOR AS-BUILTS.

Copyright Johnson Controls, 2022.
All rights reserved.
Reuse, copying, modification or alteration of the drawings and other information contained herein is strictly prohibited.

Drawing Title
Network Layout

Project Title
IUSB Wiekamp Hall Clg Twr
DESIGN ONLY 20250610

REFERENCE DRAWING	NO.	REVISION-LOCATION	ECN	DATE	BY

Sales Engineer	Project Manager	Application Engineer	DRAWN		APPROVED	
MP		FM	BY	DATE 5/8/2026	BY	DATE 5/8/2026

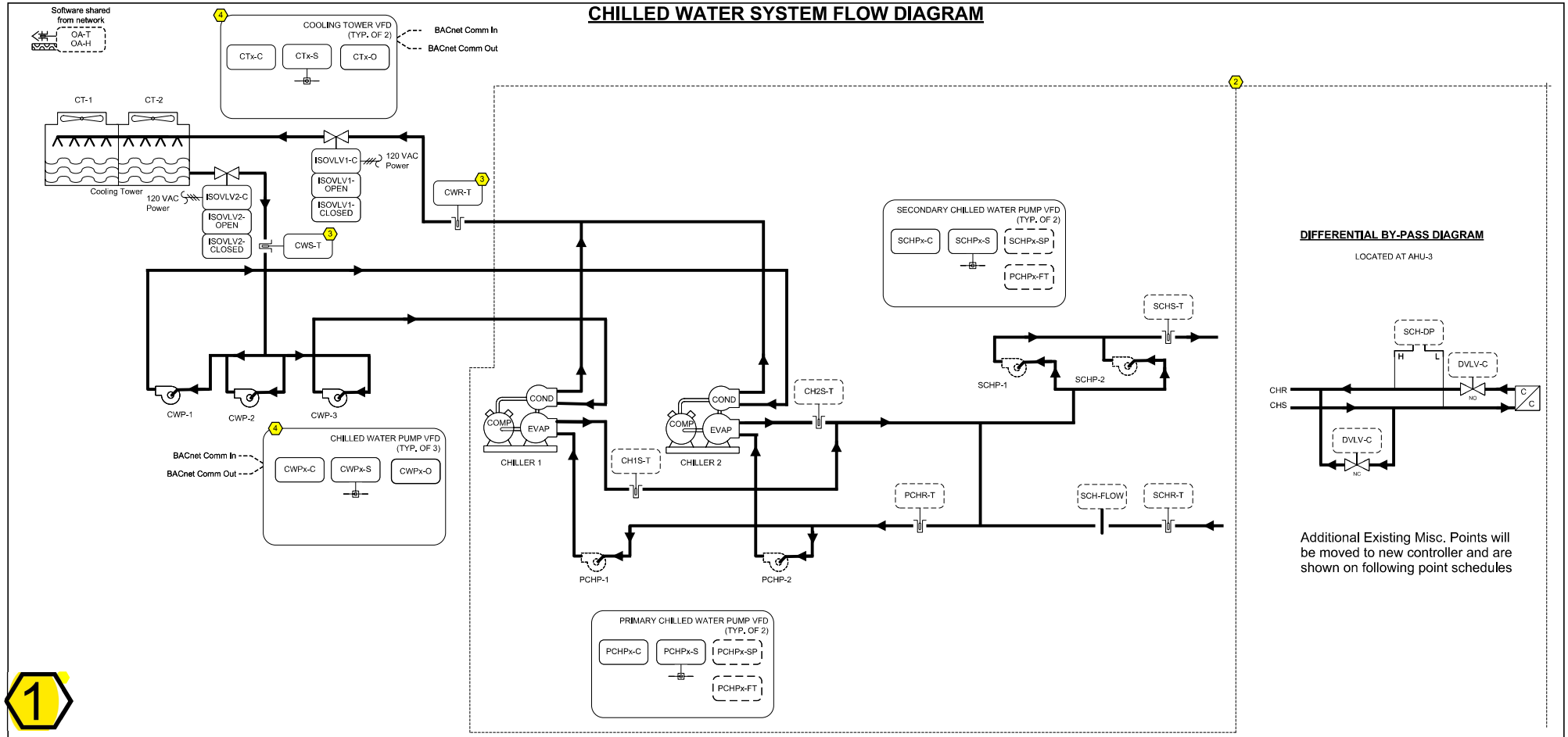
Johnson Controls

Branch Information
BSNA - CALUMET CITY
1500 HUNTINGTON DR,
CALUMET CITY, Illinois
60409
Phone: 7084741717

CONTRACT NUMBER
6N02-0321

DRAWING NUMBER
00.11-00

CHILLED WATER SYSTEM FLOW DIAGRAM



NOTES:
1. JCI TO USE EXISTING TC PANEL FOR CHW SYSTEM POINTS.
2. EXISTING TO REMAIN. POINTS TO BE MOVED TO NEW CONTROLLER.
3. REPLACE WITH NEW TEMP SENSORS.
4. 2 NEW COOLING TOWERS & 3 NEW CWP PUMPS w/ VFDs, POINTS SHOWN ON 02.00-02

Drawing Title
Chilled Water System Flow Diagram

Project Title
IUSB Wiekamp Hall Clg Twr DESIGN ONLY 20250610

Rev. Num.	ECN	Date	Rev. By	Rev. Description

Account Executive	Project Manager	Application Engineer	Drawn By	Drawing Date	Approved By	Approval Date
JL	MP	FM	FM	04/17/2025		

Johnson Controls

Branch Information
Johnson Controls, Inc.
1500 Huntington Drive
Calumet City
IL 60409-5402
Phone: 708-474-1717
Fax: 708-474-6551

Contract Number
6N02-0321

Drawing Number
02.00-00

02.00-00 Chilled Water System Flow Diagram.vsdm

Chilled Water System Old Controller -Point Schedule

Tag	Point Type	System Name	Object Name	Expanded ID	
CGM-xx		COND-WTD			
	BI IN-1	COND-WTD	CT1LO-S	CT 1 FAN LO SPD STATUS	DEMO POINT
	BI IN-2	COND-WTD	CT1HI-S	CT 1 FAN HI SPD STATUS	DEMO POINT
	BI IN-3	COND-WTD	CT2LO-S	CT 2 FAN LO SPD STATUS	DEMO POINT
	BI IN-4	COND-WTD	CT2HI-S	CT 2 FAN HI SPD STATUS	DEMO POINT
	BI IN-5	COND-WTD	CWP1-S	COND WTR PUMP 1 STATUS	DEMO POINT
	BI IN-6	COND-WTD	CWP2-S	COND WTR PUMP 2 STATUS	DEMO POINT
	BO OUT-3	COND-WTD	CT1LO-C	CT 1 FAN LO SPD CONTROL	DEMO POINT
	BO OUT-4	COND-WTD	CT1HI-C	CT 1 FAN HI SPD CONTROL	DEMO POINT
	BO OUT-5	COND-WTD	CT2LO-C	CT 2 FAN LO SPD CONTROL	DEMO POINT
	BO OUT-6	COND-WTD	CT2HI-C	CT 2 FAN HI SPD CONTROL	DEMO POINT
	AI IN-1	COND-WTD	CWS-T	COND WTR SUPPLY TEMP	MOVE TO NEW CONTROLLER
	AI IN-2	COND-WTD	CWR-T	COND WTR RETURN TEMP	MOVE TO NEW CONTROLLER
	AI IN-7	MASTER	OA-H	OUTSIDE AIR HUMIDITY	MOVE TO NEW CONTROLLER
	AI IN-8	MASTER	OA-T	OUTSIDE AIR TEMP	MOVE TO NEW CONTROLLER
	BO OUT-7	COND-WTD	CWP1-C	COND WTR PUMP 1 CONTROL	MOVE TO NEW CONTROLLER
	BO OUT-8	COND-WTD	CWP2-C	COND WTR PUMP 2 CONTROL	MOVE TO NEW CONTROLLER
		COND-WTD			
		COND-WTD			
	BI IN-1	CHILLER	FREON-A	FREON DETECTION ALARM	MOVE TO NEW CONTROLLER
	BI IN-2	MISC	ELEV1-A	ELEVATOR PIT 1 WTR ALARM	MOVE TO NEW CONTROLLER
	BI IN-3	MISC	ELEV2-A	ELEVATOR PIT 2 WTR ALARM	MOVE TO NEW CONTROLLER
	BI IN-4	MISC	ELEV3-A	ELEVATOR PIT 3 WTR ALARM	MOVE TO NEW CONTROLLER
	BI IN-5	MISC	SP1-A	SUMP PUMP 1 LEVEL ALARM	MOVE TO NEW CONTROLLER
	BI IN-6	MISC	SP2-A	SUMP PUMP 2 LEVEL ALARM	MOVE TO NEW CONTROLLER
	BI IN-7	MISC	WWPC1-A	WASTE WTR PUMP 1 LVL ALM	MOVE TO NEW CONTROLLER
	BI IN-8	MISC	WWPC2-A	WASTE WTR PUMP 2 LVL ALM	MOVE TO NEW CONTROLLER
		MISC			
		CHILLER			
	BI IN-1	CHILLER	CH1-S	CHILLER 1 STATUS	MOVE TO NEW CONTROLLER
	BI IN-2	CHILLER	CH2-S	CHILLER 2 STATUS	MOVE TO NEW CONTROLLER
	BI IN-3	CHILLER	PCHP1-S	PRI CHW PUMP 1 STATUS	MOVE TO NEW CONTROLLER
	BI IN-4	CHILLER	PCHP2-S	PRI CHW PUMP 2 STATUS	MOVE TO NEW CONTROLLER
	BI IN-5	CHILLER	SCHP1-S	SEC CHW PUMP 1 STATUS	MOVE TO NEW CONTROLLER
	BI IN-6	CHILLER	SCHP2-S	SEC CHW PUMP 2 STATUS	MOVE TO NEW CONTROLLER
	AO OUT-1	CHILLER	DVLV-C	DIVERTING VALVE CONTROL	MOVE TO NEW CONTROLLER
	BO OUT-3	CHILLER	CH1-C	CHILLER 1 CONTROL	MOVE TO NEW CONTROLLER
	BO OUT-4	CHILLER	CH2-C	CHILLER 2 CONTROL	MOVE TO NEW CONTROLLER
	AI IN-1	CHILLER	SCHS-T	SEC CHW SUPPLY TEMP	MOVE TO NEW CONTROLLER
	AI IN-2	CHILLER	SCHR-T	SEC CHW RETURN TEMP	MOVE TO NEW CONTROLLER
	AI IN-3	CHILLER	PCHR-T	PRI CHW RETURN TEMP	MOVE TO NEW CONTROLLER
	AI IN-4	CHILLER	CH1S-T	CHILLER 1 SUPPLY TEMP	MOVE TO NEW CONTROLLER
	AI IN-5	CHILLER	CH2S-T	CHILLER 2 SUPPLY TEMP	MOVE TO NEW CONTROLLER
	AI IN-7	CHILLER	SCH-DP	SCE CHW DIFF PRESSURE	MOVE TO NEW CONTROLLER
	AI IN-8	CHILLER	SCH-FLOW	SEC CHW RETURN FLOW	MOVE TO NEW CONTROLLER
	BI IN-7	CHILLER	SCHP1-FT	SEC CHW P-1 VFD FAULT	MOVE TO NEW CONTROLLER
	BI IN-8	CHILLER	SCHP2-FT	SEC CHW P-2 VFD FAULT	MOVE TO NEW CONTROLLER
	BO OUT-5	CHILLER	SCHP1-C	SEC CHW PUMP 1 CONTROL	MOVE TO NEW CONTROLLER
	BO OUT-6	CHILLER	SCHP2-C	SEC CHW PUMP 2 CONTROL	MOVE TO NEW CONTROLLER
	BO OUT-7	CHILLER	PCHP1-C	PRI CHW PUMP 1 CONTROL	MOVE TO NEW CONTROLLER
	BO OUT-8	CHILLER	PCHP2-C	PRI CHW PUMP 2 CONTROL	MOVE TO NEW CONTROLLER
	AO OUT-13	CHILLER	SCHP1-SP	SEC CHW PUMP 1 SPEED CTL	MOVE TO NEW CONTROLLER
	AO OUT-14	CHILLER	SCHP2-SP	SEC CHW PUMP 2 SPEED CTL	MOVE TO NEW CONTROLLER

Copyright Johnson Controls, 2025.
All rights reserved.
Reuse, copying, modification or alteration of the drawings and other information contained herein is strictly prohibited.

Drawing Title
Chilled Water System Old Controller Point Schedule

REFERENCE DRAWING	NO.	REVISION-LOCATION	ECN	DATE	BY

Sales Engineer	Project Manager	Application Engineer	DRAWN		APPROVED	
MP	JL	FM	BY	DATE 5/18/2026	BY	DATE 5/18/2026

Project Title
IUSB Wiekamp Hall Clg Twr
DESIGN ONLY 20250610

Johnson Controls

Branch Information
Johnson Controls, Inc.
1500 Huntington Drive
Calumet City, IL 60409
Phone: (708) 828-3421
Fax: (708) 474-6551

CONTRACT NUMBER
6N02-0321

DRAWING NUMBER
02.00-01

Chilled Water System New Controller -Point Schedule

Tag	Point Type	System Name	Object Name	Expanded ID	Controller Details	Trunk Type	Trunk Nbr	Trunk Addr.	Cable Destination Bay/Terminal	Termination Out	Panel	Cable Number	Wiring /Tubing	Termination In	Device	Termination Out	Wiring /Tubing	Termination In	Device	Ref Detail Shape	Comment
CGM-xx		CHILLER			CGM09090																Power to Controller
		CHILLER			CGM09090	MS/TP	XX	XX													BacNet FC Bus
	UI IN-1	CHILLER	OA-H	OUTSIDE AIR HUMIDITY	CGM09090	MS/TP	XX	XX	UI IN-1	IN1, ICOM1							2/22	2-Wire	TE	F131	
	UI IN-2	CHILLER	OA-T	OUTSIDE AIR TEMP	CGM09090	MS/TP	XX	XX	UI IN-2	IN2, ICOM2							2/22	2-Wire	TE	F131	
	UI IN-3	CHILLER			CGM09090	MS/TP	XX	XX	UI IN-3												
	UI IN-4	CHILLER	SCHP1-S	SEC CHW PUMP 1 STATUS	CGM09090	MS/TP	XX	XX	UI IN-4	IN4, ICOM4							2/22	See wiring detail	Dry Contact	F301	
	UI IN-5	CHILLER	SCHP2-S	SEC CHW PUMP 2 STATUS	CGM09090	MS/TP	XX	XX	UI IN-5	IN5, ICOM5							2/22	See wiring detail	Dry Contact	F301	
	UI IN-6	CHILLER	CH1-S	CHILLER 1 STATUS	CGM09090	MS/TP	XX	XX	UI IN-6	IN6, ICOM6							2/22	See wiring detail	Dry Contact	F301	
	UI IN-7	CHILLER	CH2-S	CHILLER 2 STATUS	CGM09090	MS/TP	XX	XX	UI IN-7	IN7, ICOM7							2/22	See wiring detail	Dry Contact	F301	
	BI IN-1	CHILLER	PCHP1-S	PRI CHW PUMP 1 STATUS	CGM09090	MS/TP	XX	XX	BI IN-1	IN1, ICOM1							2/22	See wiring detail	Dry Contact	F301	
	BI IN-2	CHILLER	PCHP2-S	PRI CHW PUMP 2 STATUS	CGM09090	MS/TP	XX	XX	BI IN-2	IN2, ICOM2							2/22	See wiring detail	Dry Contact	F301	
	BO OUT-1	CHILLER	CH1-C	CHILLER 1 COMMAND	CGM09090	MS/TP	XX	XX	BO OUT-1	OUT1, 24V COM			2/22	COIL-,COIL+	Relay	COM, NO	2/14	See wiring detail	VFD (w/o Safety) (Sw Hi, EXT)	F1043	
	BO OUT-2	CHILLER	CH2-C	CHILLER 2 COMMAND	CGM09090	MS/TP	XX	XX	BO OUT-2	OUT2, 24V COM			2/22	COIL-,COIL+	Relay	COM, NO	2/14	See wiring detail	VFD (w/o Safety) (Sw Hi, EXT)	F1043	
	BO OUT-3	CHILLER			CGM09090	MS/TP	XX	XX	BO OUT-3												
	CO OUT-1	CHILLER			CGM09090	MS/TP	XX	XX	CO OUT-1												
	CO OUT-2	CHILLER			CGM09090	MS/TP	XX	XX	CO OUT-2												
	CO OUT-3	CHILLER			CGM09090	MS/TP	XX	XX	CO OUT-3												
	CO OUT-4	CHILLER			CGM09090	MS/TP	XX	XX	CO OUT-4												
	AO OUT-1	CHILLER	DVLV-C	DIVERTING VALVE CONTROL	CGM09090	MS/TP	XX	XX	AO OUT-1	OUT1, OCOM1,24VAC, COM							2/22 / 2/18	GRY, BLK/BLK, RED	M92xx-GGx-x (Vdc) (Ext Source)	F267	
	AO OUT-2	CHILLER			CGM09090	MS/TP	XX	XX	AO OUT-2												
XPM-04		CHILLER			XPM09090																Power to Controller
		CHILLER			XPM09090	SA Bus	XX	XX													BacNet SA Bus
	UI IN-1	CHILLER	SCHS-T	SEC CHW SUPPLY TEMP	XPM09090	SA Bus	XX	XX	UI IN-1	IN1, ICOM1							2/22	2-Wire	TE	F131	
	UI IN-2	CHILLER	SCHR-T	SEC CHW RETURN TEMP	XPM09090	SA Bus	XX	XX	UI IN-2	IN2, ICOM2							2/22	2-Wire	TE	F131	
	UI IN-3	CHILLER	PCHR-T	PRI CHW RETURN TEMP	XPM09090	SA Bus	XX	XX	UI IN-3	IN3, ICOM3							2/22	2-Wire	TE	F131	
	UI IN-4	CHILLER	CH1S-T	CHILLER 1 SUPPLY TEMP	XPM09090	SA Bus	XX	XX	UI IN-4	IN4, ICOM4							2/22	2-Wire	TE	F131	
	UI IN-5	CHILLER	CH2S-T	CHILLER 2 SUPPLY TEMP	XPM09090	SA Bus	XX	XX	UI IN-5	IN5, ICOM5							2/22	2-Wire	TE	F131	
	UI IN-6	CHILLER	SCH-DP	SCE CHW DIFF PRESSURE	XPM09090	SA Bus	XX	XX	UI IN-6	IN6, +15V							2/22	-, +	DPT2xxx (mA)	F106	
	UI IN-7	CHILLER	SCH-FLOW	SEC CHW RETURN FLOW	XPM09090	SA Bus	XX	XX	UI IN-7	IN7, ICOM7, 24V HOT, 24V COM							4/22	BLU, BRN, RED, BLK	Flow Meter F-1x10 (Vdc)	F117	
	BI IN-1	CHILLER	SCHP1-FT	SEC CHW P-1 VFD FAULT	XPM09090	SA Bus	XX	XX	BI IN-1	IN1, ICOM1							2/22 / '2/22 (U	LINE, M1, (LINE,M2)	A70 (NO)	F302	
	BI IN-2	CHILLER	SCHP2-FT	SEC CHW P-2 VFD FAULT	XPM09090	SA Bus	XX	XX	BI IN-2	IN2, ICOM2							2/22 / '2/22 (U	LINE, M1, (LINE,M2)	A70 (NO)	F302	
	BO OUT-1	CHILLER	SCHP1-C	SEC CHW PUMP 1 CONTROL	XPM09090	SA Bus	XX	XX	BO OUT-1	OUT1, 24V COM			2/22	COIL-,COIL+	Relay	COM, NO	2/14	See wiring detail	VFD (w/o Safety) (Sw Hi, EXT)	F1043	
	BO OUT-2	CHILLER	SCHP2-C	SEC CHW PUMP 2 CONTROL	XPM09090	SA Bus	XX	XX	BO OUT-2	OUT2, 24V COM			2/22	COIL-,COIL+	Relay	COM, NO	2/14	See wiring detail	VFD (w/o Safety) (Sw Hi, EXT)	F1043	
	BO OUT-3	CHILLER	PCHP1-C	PRI CHW PUMP 1 CONTROL	XPM09090	SA Bus	XX	XX	BO OUT-3	OUT3, 24V COM			2/22	COIL-,COIL+	Relay	COM, NO	2/14	See wiring detail	VFD (w/o Safety) (Sw Hi, EXT)	F1043	
	CO OUT-1	CHILLER	PCHP2-C	PRI CHW PUMP 2 CONTROL	XPM09090	SA Bus	XX	XX	CO OUT-1	OUT1, 24V COM			2/22	COIL-,COIL+	Relay	COM, NO	2/14	See wiring detail	VFD (w/o Safety) (Sw Hi, EXT)	F1043	
	CO OUT-2	CHILLER			XPM09090	SA Bus	XX	XX	CO OUT-2												
	CO OUT-3	CHILLER			XPM09090	SA Bus	XX	XX	CO OUT-3												
	CO OUT-4	CHILLER			XPM09090	SA Bus	XX	XX	CO OUT-4												
	AO OUT-1	CHILLER	SCHP1-SP	SEC CHW PUMP 1 SPEED CTL	XPM09090	SA Bus	XX	XX	AO OUT-1	OUT1, OCOM1							2/22	See VFD Detail	VFD Speed Control (Vdc)		
	AO OUT-2	CHILLER	SCHP2-SP	SEC CHW PUMP 2 SPEED CTL	XPM09090	SA Bus	XX	XX	AO OUT-2	OUT2, OCOM2							2/22	See VFD Detail	VFD Speed Control (Vdc)		
XPM-04		CHILLER			XPM09090																Power to Controller
		CHILLER			XPM09090	SA Bus	XX	XX													BacNet SA Bus
	UI IN-1	CHILLER	CWS-T	COND WTR SUPPLY TEMP	XPM09090	SA Bus	XX	XX	UI IN-1	IN1, ICOM1							2/22	2-Wire	TE	F131	
	UI IN-2	CHILLER	CWR-T	COND WTR RETURN TEMP	XPM09090	SA Bus	XX	XX	UI IN-2	IN2, ICOM2							2/22	2-Wire	TE	F131	
	UI IN-3	CHILLER			XPM09090	SA Bus	XX	XX	UI IN-3												
	UI IN-4	CHILLER			XPM09090	SA Bus	XX	XX	UI IN-4												
	UI IN-5	CHILLER			XPM09090	SA Bus	XX	XX	UI IN-5												
	UI IN-6	CHILLER			XPM09090	SA Bus	XX	XX	UI IN-6												
	UI IN-7	CHILLER			XPM09090	SA Bus	XX	XX	UI IN-7												
	BI IN-1	CHILLER	ISOVLV1-OPEN	COOLING TOWER 1 ISO VALVE OPN STATUS	XPM09090	SA Bus	XX	XX	BI IN-1												
	BI IN-2	CHILLER	ISOVLV1-CLOSED	COOLING TOWER 1 ISO VALVE CLOSED STATUS	XPM09090	SA Bus	XX	XX	BI IN-2												
	BO OUT-1	CHILLER	ISOVLV1-C	COOLING TOWER 1 ISO VALVE COMMAND	XPM09090	SA Bus	XX	XX	BO OUT-1	OUT1, 24V COM			2/22	COIL-,COIL+	Relay	COM, NO	2/14	See wiring detail	VFD (w/o Safety) (Sw Hi, EXT)	F1043	
	BO OUT-2	CHILLER	ISOVLV2-C	COOLING TOWER 2 ISO VALVE COMMAND	XPM09090	SA Bus	XX	XX	BO OUT-2	OUT2, 24V COM			2/22	COIL-,COIL+	Relay	COM, NO	2/14	See wiring detail	VFD (w/o Safety) (Sw Hi, EXT)	F1043	
	BO OUT-3	CHILLER			XPM09090	SA Bus	XX	XX	BO OUT-3												
	CO OUT-1	CHILLER	(1)		XPM09090	SA Bus	XX	XX	CO OUT-1												
	CO OUT-2	CHILLER			XPM09090	SA Bus	XX	XX	CO OUT-2												
	CO OUT-3	CHILLER			XPM09090	SA Bus	XX	XX	CO OUT-3												
	CO OUT-4	COND-WTD	CWP3-C	COND WTR PUMP 3 COMMAND	XPM09090	SA Bus	XX	XX	CO OUT-4	OUT4, 24V COM			2/22	COIL-,COIL+	Relay	COM, NO	2/14	See wiring detail	VFD (w/o Safety) (Sw Hi, EXT)	F1043	
	AO OUT-1	COND-WTD	CWP3-O	COND WTR PUMP 3 OUTPUT	XPM09090	SA Bus	XX	XX	AO OUT-1	OUT1, OCOM1			2/22	COIL-,COIL+	Relay	COM, NO	2/14	See wiring detail	VFD (w/o Safety) (Sw Hi, EXT)	F1043	
	AO OUT-2	CHILLER			XPM09090	SA Bus	XX	XX	AO OUT-2												

NOTES:
1. ALL THE HIGHLIGHTED POINTS ARE NEW POINTS.

**Copyright Johnson Controls, 2025.
All rights reserved.
Reuse, copying, modification or alteration of the drawings and other information contained herein is strictly prohibited.**

Drawing Title
Chilled Water System New Controller Point Schedule

Project Title
**IUSB Wiekamp Hall Clg Twr
DESIGN ONLY 20250610**

REFERENCE DRAWING	NO.	REVISION-LOCATION	ECN	DATE	BY

Sales Engineer	Project Manager	Application Engineer	DRAWN		APPROVED	
MP	JL	FM	BY	DATE 5/18/2026	BY	DATE 5/18/2026

Johnson Controls

Branch Information
Johnson Controls, Inc.
1500 Huntington Drive
Calumet City, IL 60409
Phone: (708) 828-3421
Fax: (708) 474-6551

CONTRACT NUMBER
6N02-0321

DRAWING NUMBER
02.00-01

Chilled Water System New Controller -Point Schedule 2

Tag	Point Type	System Name	Object Name	Expanded ID	Controller Details	Trunk Type	Trunk Nbr	Trunk Addr.	Cable Destination Bay/Terminal	Termination Out	Panel	Cable Number	Wiring /Tubing	Termination In	Device	Termination Out	Wiring /Tubing	Termination In	Device	Ref Detail Shape	Comment
XPM-04		CHILLER			XPM09090																Power to Controller
		CHILLER			XPM09090	SA Bus	XX	XX													BacNet SA Bus
	UI IN-1	CHILLER	CT1-S	COOLING TOWER 1 FAN STATUS	XPM09090	SA Bus	XX	XX	UI IN-1	IN1, ICOM1							2/22	See wiring detail	Dry Contact	F301	
	UI IN-2	CHILLER	CT2-S	COOLING TOWER 2 FAN STATUS	XPM09090	SA Bus	XX	XX	UI IN-2	IN2, ICOM2							2/22	See wiring detail	Dry Contact	F301	
	UI IN-3	CHILLER			XPM09090	SA Bus	XX	XX	UI IN-3												
	UI IN-4	CHILLER			XPM09090	SA Bus	XX	XX	UI IN-4												
	UI IN-5	COND-WTD	CWP1-S	COND WTR PUMP 1 STATUS	XPM09090	SA Bus	XX	XX	UI IN-5	IN5, ICOM5							2/22	See wiring detail	Dry Contact	F301	
	UI IN-6	COND-WTD	CWP2-S	COND WTR PUMP 2 STATUS	XPM09090	SA Bus	XX	XX	UI IN-6	IN6, ICOM6							2/22	See wiring detail	Dry Contact	F301	
	UI IN-7	COND-WTD	CWP3-S	COND WTR PUMP 3 STATUS	XPM09090	SA Bus	XX	XX	UI IN-7	IN7, ICOM7							2/22	See wiring detail	Dry Contact	F301	
	BI IN-1	CHILLER	ISOVLV2-OPEN	COOLING TOWER 2 ISO VALVE OPN STATUS	XPM09090	SA Bus	XX	XX	BI IN-1	IN1, ICOM1							2/22	See wiring detail	Dry Contact	F301	
	BI IN-2	CHILLER	ISOVLV2-CLOSED	COOLING TOWER 2 ISO VALVE CLOSED STATUS	XPM09090	SA Bus	XX	XX	BI IN-2	IN2, ICOM2							2/22	See wiring detail	Dry Contact	F301	
	BO OUT-1	CHILLER			XPM09090	SA Bus	XX	XX	BO OUT-1												
	BO OUT-2	CHILLER	CT1-C	COOLING TOWER 1 FAN COMMAND	XPM09090	SA Bus	XX	XX	BO OUT-2	OUT2, 24V COM			2/22	COIL-,COIL+	Relay	COM, NO	2/14	See wiring detail	VFD (w/o Safety) (Sw Hi, EXT)	F1043	
	BO OUT-3	CHILLER	CT2-C	COOLING TOWER 2 FAN COMMAND	XPM09090	SA Bus	XX	XX	BO OUT-3	OUT3, 24V COM			2/22	COIL-,COIL+	Relay	COM, NO	2/14	See wiring detail	VFD (w/o Safety) (Sw Hi, EXT)	F1043	
	CO OUT-1	CHILLER	CT1-O	COOLING TOWER 1 FAN OUTPUT	XPM09090	SA Bus	XX	XX	CO OUT-1	OUT1, 24V COM			2/22	COIL-,COIL+	Relay	COM, NO	2/14	See wiring detail	VFD (w/o Safety) (Sw Hi, EXT)	F1043	
	CO OUT-2	CHILLER	CT2-O	COOLING TOWER 2 FAN OUTPUT	XPM09090	SA Bus	XX	XX	CO OUT-2	OUT2, 24V COM			2/22	COIL-,COIL+	Relay	COM, NO	2/14	See wiring detail	VFD (w/o Safety) (Sw Hi, EXT)	F1043	
	CO OUT-3	COND-WTD	CWP1-C	COND WTR PUMP 1 COMMAND	XPM09090	SA Bus	XX	XX	CO OUT-3	OUT3, 24V COM			2/22	COIL-,COIL+	Relay	COM, NO	2/14	See wiring detail	VFD (w/o Safety) (Sw Hi, EXT)	F1043	
	CO OUT-4	COND-WTD	CWP2-C	COND WTR PUMP 2 COMMAND	XPM09090	SA Bus	XX	XX	CO OUT-4	OUT4, 24V COM			2/22	COIL-,COIL+	Relay	COM, NO	2/14	See wiring detail	VFD (w/o Safety) (Sw Hi, EXT)	F1043	
	AO OUT-1	COND-WTD	CWP1-O	COND WTR PUMP 1 OUTPUT	XPM09090	SA Bus	XX	XX	AO OUT-1	OUT1, OCOM1			2/22	COIL-,COIL+	Relay	COM, NO	2/14	See wiring detail	VFD (w/o Safety) (Sw Hi, EXT)	F1043	
	AO OUT-2	COND-WTD	CWP2-O	COND WTR PUMP 2 OUTPUT	XPM09090	SA Bus	XX	XX	AO OUT-2	OUT2, OCOM2			2/22	COIL-,COIL+	Relay	COM, NO	2/14	See wiring detail	VFD (w/o Safety) (Sw Hi, EXT)	F1043	
1		CHILLER			XPM18000																Power to Controller
		CHILLER			XPM18000	MS/TP	XX	XX													BacNet FC Bus
	BI IN-1	CHILLER	FREON-A	FREON DETECTION ALARM	XPM18000	MS/TP	XX	XX	BI IN-1	IN1, ICOM1							2/22 / 2/22 (U	LINE, M1, (LINE,M2)	A70 (NO)	F302	
	BI IN-2	MISC	ELEV1-A	ELEVATOR PIT 1 WTR ALARM	XPM18000	MS/TP	XX	XX	BI IN-2	IN2, ICOM2							2/22 / 2/22 (U	LINE, M1, (LINE,M2)	A70 (NO)	F302	
	BI IN-3	MISC	ELEV2-A	ELEVATOR PIT 2 WTR ALARM	XPM18000	MS/TP	XX	XX	BI IN-3	IN3, ICOM3							2/22 / 2/22 (U	LINE, M1, (LINE,M2)	A70 (NO)	F302	
	BI IN-4	MISC	ELEV3-A	ELEVATOR PIT 3 WTR ALARM	XPM18000	MS/TP	XX	XX	BI IN-4	IN4, ICOM4							2/22 / 2/22 (U	LINE, M1, (LINE,M2)	A70 (NO)	F302	
	BI IN-5	MISC	SP1-A	SUMP PUMP 1 LEVEL ALARM	XPM18000	MS/TP	XX	XX	BI IN-5	IN5, ICOM5							2/22 / 2/22 (U	LINE, M1, (LINE,M2)	A70 (NO)	F302	
	BI IN-6	MISC	SP2-A	SUMP PUMP 2 LEVEL ALARM	XPM18000	MS/TP	XX	XX	BI IN-6	IN6, ICOM6							2/22 / 2/22 (U	LINE, M1, (LINE,M2)	A70 (NO)	F302	
	BI IN-7	MISC	WWPC1-A	WASTE WTR PUMP 1 LVL ALM	XPM18000	MS/TP	XX	XX	BI IN-7	IN7, ICOM7							2/22 / 2/22 (U	LINE, M1, (LINE,M2)	A70 (NO)	F302	
	BI IN-8	MISC	WWPC2-A	WASTE WTR PUMP 2 LVL ALM	XPM18000	MS/TP	XX	XX	BI IN-8	IN8, ICOM8							2/22 / 2/22 (U	LINE, M1, (LINE,M2)	A70 (NO)	F302	
	BI IN-9	CHILLER			XPM18000	MS/TP	XX	XX	BI IN-9												
	BI IN-10	CHILLER			XPM18000	MS/TP	XX	XX	BI IN-10												
	BI IN-11	CHILLER			XPM18000	MS/TP	XX	XX	BI IN-11												
	BI IN-12	CHILLER			XPM18000	MS/TP	XX	XX	BI IN-12												
	BI IN-13	CHILLER			XPM18000	MS/TP	XX	XX	BI IN-13												
	BI IN-14	CHILLER			XPM18000	MS/TP	XX	XX	BI IN-14												
	BI IN-15	CHILLER			XPM18000	MS/TP	XX	XX	BI IN-15												
	BI IN-16	CHILLER			XPM18000	MS/TP	XX	XX	BI IN-16												
	BI IN-17	CHILLER			XPM18000	MS/TP	XX	XX	BI IN-17												
	BI IN-18	CHILLER			XPM18000	MS/TP	XX	XX	BI IN-18												

NOTES:
1. ALL THE HIGHLIGHTED POINTS ARE NEW POINTS.

**Copyright Johnson Controls, 2025.
All rights reserved.
Reuse, copying, modification or alteration of the drawings and other information contained herein is strictly prohibited.**

Drawing Title
Chilled Water System New Controller Point Schedule 2

Project Title
**IUSB Wiekamp Hall Clg Twr
DESIGN ONLY 20250610**

REFERENCE DRAWING	NO.	REVISION-LOCATION	ECN	DATE	BY

Sales Engineer	Project Manager	Application Engineer	DRAWN	APPROVED
MP	JL	FM	BY DATE 5/18/2026	BY DATE 5/18/2026

Johnson Controls

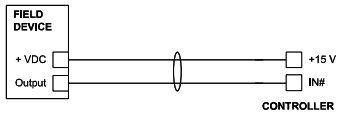
Branch Information
Johnson Controls, Inc.
1500 Huntington Drive
Calumet City, IL 60409
Phone: (708) 828-3421
Fax: (708) 474-6551

CONTRACT NUMBER
6N02-0321

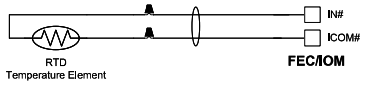
DRAWING NUMBER
02.00-03

Chilled Water System – Wiring Details

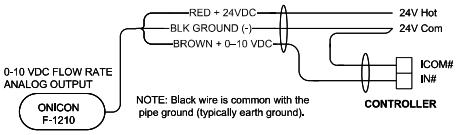
DETAIL F106 CURRENT INPUT - INTERNAL SOURCE (2 Wire)



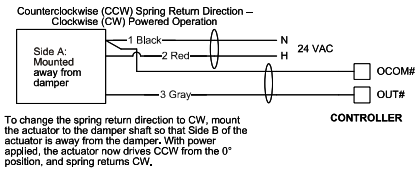
DETAIL F131 TEMPERATURE SENSOR INPUT



DETAIL F117 ONICON Model F1x10 Flow Sensor With 0-10 VDC OUTPUT

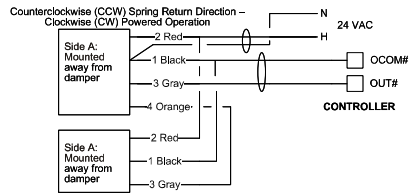


DETAIL F267 0-10VDC OUTPUT to M92xx-GGx and HGx or VA92xx-GGx and HGx

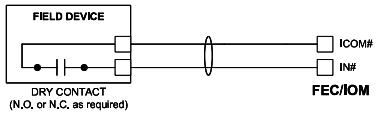


To change the spring return direction to CW, mount the actuator to the damper shaft so that Side B of the actuator is away from the damper. With power applied, the actuator now drives CCW from the 0° position, and spring returns CW.

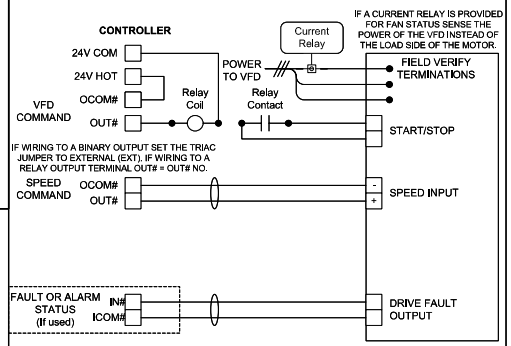
Master-Slave Application



DETAIL F301 BINARY INPUT (DRY CONTACT)



DETAIL F1043 VFD without Safeties Wiring



Copyright Johnson Controls, 2025.
All rights reserved.
Reuse, copying, modification or alteration of the drawings and other information contained herein is strictly prohibited.

Drawing Title
Chilled Water Systems-Wiring Details

Project Title
IUSB Wiekamp Hall Clg Twr
DESIGN ONLY 20250610

REFERENCE DRAWING	NO.	REVISION-LOCATION	ECN	DATE	BY

Sales Engineer	Project Manager	Application Engineer	DRAWN		APPROVED	
MP	JL	FM	BY	DATE 5/18/2026	BY	DATE 5/18/2026

Johnson Controls

Branch Information
Johnson Controls Inc.
1500 Huntington Dr,
Calumet City, IL, 60409
Phone: (703)-232-3013

CONTRACT NUMBER
6N02-0321

DRAWING NUMBER
02.00-04