

DEVICE SCHEDULE

SYMBOL	DEVICE	QUANTITY	DEVICE LOCATION	DEVICE CABLE TYPE	NOTES
⊙	CARBON DIOXIDE SENSOR	1	MAIN SPACE, MOST CENTRALLY LOCATED, ABOVE/BESIDE DZC	18/2 (X2)	
⊙	DUCT TEMPERATURE SENSOR	1 PER ROOFTOP UNIT	BOTTOM OF MAIN SUPPLY AIR DUCT DROP	18/2	1
⊙	DIMMING CONTROL PANEL	1 (OPTIONAL)	NEAR BREAKER PANELS FEEDING LIGHTING CIRCUITS	VARIES PER CONNECTED DEVICE	10
⊙	DIGITAL ZONE CONTROLLER	1 PER ROOFTOP UNIT (AND ADDITIONAL HVAC)	IN ZONE BEING SERVED	18/10	2
⊙	ENERGY METER	1 PER MDP	MAIN 3-PHASE SUPPLY NEAR UTILITY METER	24/1P (COMM CABLE TO SLP)	3
⊙	INTERIOR LIGHT SENSOR	PER PLAN	PER PLAN	18/2 (X2) OR 18/4	
⊙	LIGHTING CONTROL PANEL	1	NEAR BREAKER PANELS	18/10 PLUS ALL REQ'D LINE VOLTAGE	
⊙	OUTSIDE SENSING DEVICE	1	ROOF	18/2 (X2)	
⊙	OVERRIDE (4-BUTTON)	1 (OPTIONAL)		18/2 (X4)	
⊙	POWER INTERFACE PANEL	1	ELECTRICAL ROOM (UNDER SLP)	(1) 18/2, OTHER (SEE POINT TO POINT DWG'S)	5
⊙	RELATIVE HUMIDITY	1	MAIN SPACE, MOST CENTRALLY LOCATED, ABOVE/BESIDE DZC	18/2 (X2)	
⊙	REMOTE I/O PANEL	1		24/1P	
⊙	SECURITY SYSTEM INTERFACE	1		18/2 (X2)	
⊙	SCREAM LOGIC PANEL	1	ELECTRICAL ROOM	VARIES PER CONNECTED DEVICE	

INSTALLATION RESPONSIBILITIES

SYMBOL	DEVICE	PROVIDED BY	MOUNTING	BOX/RACEWAYS	TERMINATION OF WIRES AT BOTH ENDS	NOTES
⊙	CARBON DIOXIDE SENSOR	SIEMENS	SIEMENS	EC	SIEMENS	
⊙	DUCT TEMPERATURE SENSOR	SIEMENS	SIEMENS	EC	SIEMENS	1
⊙	DIMMING CONTROL PANEL	SIEMENS	SIEMENS	EC	EC	10
⊙	DIGITAL ZONE CONTROLLER	SIEMENS	SIEMENS	EC	SIEMENS	2
⊙	ENERGY METER	SIEMENS	SIEMENS	SIEMENS	SIEMENS	3
⊙	INTERIOR LIGHT SENSOR	SIEMENS	SIEMENS	SIEMENS	SIEMENS	
⊙	LIGHTING CONTROL PANEL	SIEMENS	EC	EC	EC	4,8
⊙	OUTSIDE SENSING DEVICE	SIEMENS	SIEMENS	EC	SIEMENS	
⊙	LIGHTING OVERRIDE PANEL (4 BUTTON)	SIEMENS	SIEMENS	SIEMENS	SIEMENS	
⊙	RELATIVE HUMIDITY	SIEMENS	SIEMENS	EC	SIEMENS	
⊙	REMOTE I/O PANEL	SIEMENS	SIEMENS	SIEMENS	SIEMENS	
⊙	POWER INTERFACE PANEL	SIEMENS	SIEMENS	SIEMENS	SIEMENS	4,5,6
⊙	SECURITY SYSTEM INTERFACE	SIEMENS	SIEMENS	SIEMENS	SIEMENS	
⊙	SCREAM LOGIC PANEL	SIEMENS	EC	EC	SIEMENS	7
CAT5	CAT-5 COMMUNICATION CABLE	SIEMENS	SIEMENS	EC	SIEMENS	9
WDMF	WALK-IN COOLER / WALK-IN FREEZER	SIEMENS	SIEMENS	SIEMENS	SIEMENS	

NOTES

- ONE DUCT SENSOR IN THE SUPPLY AIR DUCT OF EACH RTU
- ONE DZC FOR EACH ROOFTOP. ONE DZC FOR ANY OTHER HVAC DEVICE (IF SPECIFIED)
- MOUNT EMCTS ON 3-PHASE BUSS BARS AT MDP AFTER UTILITY METER AND BEFORE TRANSFORMERS AND BRANCH CIRCUITS
- SIEMENS SHALL INSTALL LOW VOLTAGE CABLE IN RACEWAYS PROVIDED BY E.C. AND TERMINATE BOTH ENDS - LINE VOLTAGE WIRING AND TERMINATIONS BY E.C.
- E.C. SHALL PROVIDE AND INSTALL A DEDICATED 120V, 20A CIRCUIT TO POWER THE PIP LABEL BREAKER EMS-2
- INTERCONNECTING CABLING BETWEEN THE PIP AND SLP SHALL BE INSTALLED BY THE M.C. AND THE GROUND CONNECTION BY THE E.C.
- WITH THE EXCEPTION OF THE OSD AND ENERGY METERS THE M.C. SHALL TERMINATE ALL LV CABLES IN THE SLP
- E.C. SHALL PROVIDE AND INSTALL A DEDICATED 120V, 20A CIRCUIT TO POWER THE LCP LABEL BREAKER EMS-1
- SIEMENS TO INSTALL CAT-5 COMMUNICATION CABLE FROM TERMINATION POINT IN SLP TO DATA DROP IN CASH OFFICE, 10' 0" OF EXCESS CABLE WITHIN OFFICE LOCATION. E.C. TO INSTALL RJ-45 CONNECTORS TO EACH END OF CABLE
- SIEMENS SHALL INSTALL AND TERMINATE CABLE FOR LIGHT SENSORS AND COMMUNICATION. E.C. TO INSTALL AND TERMINATE CONTROL VOLTAGE TO LIGHTING BALLASTS AND ALL LINE VOLTAGE

CABLE SCHEDULE

CABLE	SIZE	TYPE	MFG./MODEL
18/2	18AWG/2-CONDUCTOR	SHIELDED, STRANDED, PLENUM RATED	BELDEN/6300FE NON-PAIRED COMTRAN/3644 TAPPAN/1880AB2M-CMP
18/10	18AWG/10-CONDUCTOR	UNSHIELDED, STRANDED, PLENUM	BELDEN/6308UE NON-PAIRED LAKE CABLE/P1810C-WIN TAPPAN/1880AB10-CMP
24/1P	24AWG/1-TWISTED PAIR	SHIELDED, STRANDED, PLENUM RATED, TWISTED PAIR	BELDEN/82841 PAIRED LAKE CABLE/PF242CS TAPPAN/241ATIM-CMP
CAT5	24AWG/ 4-UTP	UNSHIELDED SOLID CONDUCTOR TWISTED PAIR	BELDEN/1583 CAT5

GENERAL EMS CONSTRUCTION NOTES:

- SIEMENS SHALL PROVIDE THE INSTALLATION LABOR AND MATERIALS TO INSTALL THE LOW VOLTAGE PORTION OF THE CUSTOMER SUPPLIED EMS SYSTEM ACCORDING TO THE EMS SCHEDULES AND THE FOLLOWING:
 - INSTALL EMS DEVICES AT LOCATIONS SHOWN ON THE MECHANICAL DRAWINGS AND MOUNT ACCORDING TO THE EMS DETAILS.
 - PROVIDE AND INSTALL THE LOW VOLTAGE CABLING FROM THE EMS DEVICES TO THE PIP, SLP, AND LCP
 - TERMINATE THE LOW VOLTAGE CABLING AT BOTH ENDS.
 - CLEARLY IDENTIFY (LABEL) THE CABLES AT BOTH ENDS.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE INSTALLATION LABOR AND MATERIALS TO INSTALL THE LINE VOLTAGE PORTION OF THE CUSTOMER SUPPLIED EMS SYSTEM ACCORDING TO THE EMS SCHEDULES AND THE FOLLOWING:
 - PROVIDE AND INSTALL ELECTRICAL BOXES WITH 3/4" EMT STUB-UPS TO ABOVE CEILING GRID FOR WALL MOUNTED EMS AND CONTROL DEVICES.
 - MOUNT EMS PANELS AND PIPE TOGETHER ACCORDING TO THE EMS DRAWINGS.
 - INSTALL THE ENERGY METER AT THE MAIN DISTRIBUTION PANEL. INSTALL AND TERMINATE COMMUNICATIONS CABLE.
 - PROVIDE AND INSTALL AN 8' SECTION OF 1/2" RIGID FOR ROOF MOUNTED OSD. INSTALL AND TERMINATE OSD AND CABLE.
 - PROVIDE AND INSTALL (1) EACH 120V, 20A CIRCUIT TO POWER THE PIP LABEL PIP BREAKER "EMS-2"
- ALL WIRING SHALL CONFORM TO NATIONAL AND STATE ELECTRICAL CODES.
- NOTES ABOVE DO NOT ALLEVIATE CONTRACTORS OF OVERALL RESPONSIBILITIES OF PROVIDING A COMPLETE AND OPERATIONAL SYSTEM.

INSTALLATION SUMMARY

- LOW VOLTAGE CABLE
 - SIEMENS SHALL FURNISH THE LOW VOLTAGE CABLE FOR THE EMS SYSTEM. THE CABLE SHALL BE AS SPECIFIED IN THE CABLE SCHEDULE.
- EQUIPMENT DELIVERY
 - SIEMENS SHALL PROVIDE THE EMS EQUIPMENT IN A SHIPPED CONTAINER.
 - IT SHALL BE UP TO THE G.C. TO CALL FOR EMS EQUIPMENT DELIVERY. THE EQUIPMENT WILL BE SHIPPED WITHIN 2 DAYS OF RECEIVING A VALID REQUEST. A VALID REQUEST SHALL CONSIST OF THE FOLLOWING:
 - NAME AND PHONE NUMBER OF PERSON RESPONSIBLE FOR RECEIVING THE EMS EQUIPMENT AND STATE NUMBER
 - A VALID SHIPPING ADDRESS (CONSIDERABLE BY THE DELIVERY AGENT)
- CONTACT INFORMATION
 - PLEASE DIRECT ALL SHIPPING REQUESTS TO SIEMENS AT (512) 529-9116
- EMS COMMISSIONING
 - IT SHALL BE UP TO THE G.C. TO CALL STEVEN VAN-AUKEN AT (512) 529-9116 FOR EMS COMMISSIONING AT LEAST 2 WEEKS PRIOR TO TURN OVER AND BEFORE THE INSTALLING CONTRACTOR HAS LEFT THE PROJECT.
 - SIEMENS WILL COMMISSION THE EMS SYSTEM UPON RECEIVING A VALID REQUEST AND AFTER THE FOLLOWING CONDITIONS HAVE BEEN MET:
 - ALL EMS DEVICES AND PANELS HAVE BEEN INSTALLED, WIRED AND TERMINATED
 - ALL LINE VOLTAGE WIRING HAS BEEN COMPLETED
 - ALL CONTROLLED EQUIPMENT HAS BEEN INSTALLED AND STARTED
 - FAILURE TO MEET THESE CONDITIONS COULD RESULT IN DELAY OF STORE OPENING

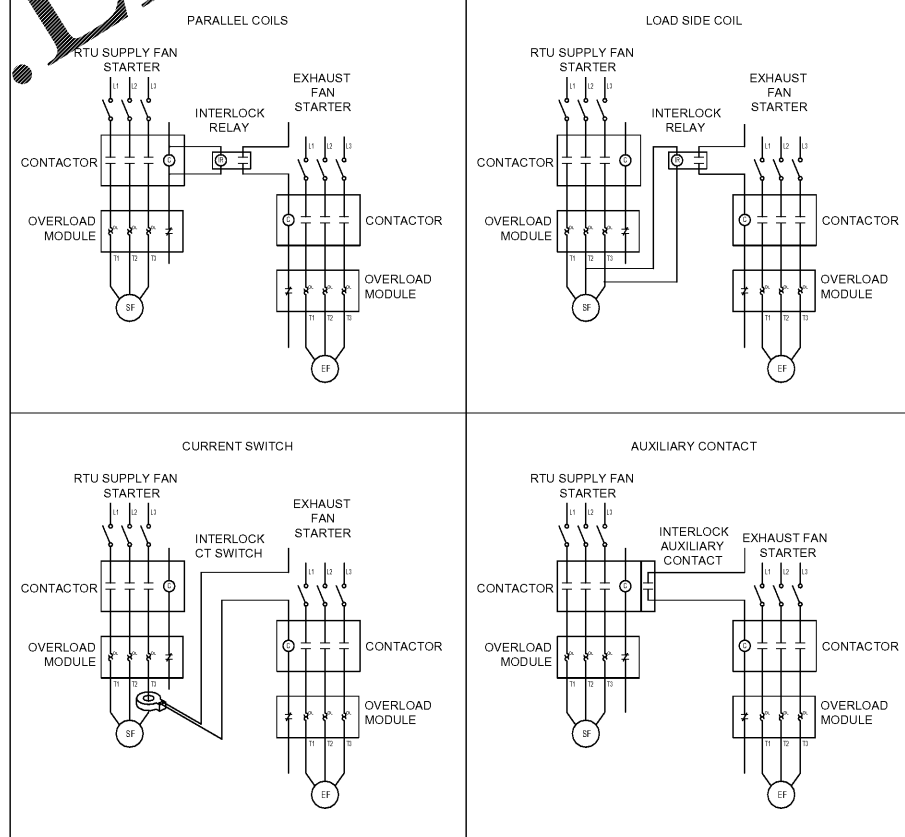
GENERAL LV CABLE INSTALLATION INSTRUCTIONS

- HOME RUNS
 - LOW VOLTAGE CABLES SHALL BE PULLED FROM DEVICE TO CONTROL PANEL WITHOUT SPLICING.
- COMMUNICATIONS CABLING
 - IN THE CASE OF MULTIPLE DEVICES SUCH AS COMMUNICATIONS CABLING, THE CABLE SEGMENTS SHALL BE PULLED FROM DEVICE TO DEVICE WITHOUT SPLICING.
- CABLE SHIELD GROUNDING
 - EACH CABLE RUN SHALL BE GROUNDED AT ONE END ONLY. GROUND SHIELD DRAIN WIRE AT CONTROL PANEL END. FASTEN DRAIN WIRE TO EARTH GROUND SCREWS PROVIDED. THE SHIELD AND DRAIN WIRE SHALL BE REMOVED FROM THE OPPOSITE (DEVICE) END AND ISOLATED FROM GROUND.
 - IN THE CASE OF MULTIPLE DEVICES SUCH AS COMMUNICATIONS WIRING, THE SHIELD DRAIN WIRES AT THE INTERMEDIATE DEVICES SHALL BE MECHANICALLY SPLICED TOGETHER AND ISOLATED FROM GROUND.
- TESTING SHIELD GROUNDS
 - DURING COMMISSIONING THE FIELD SERVICE REPRESENTATIVE (FSR) WILL TEST THE SHIELD GROUNDING AT THE CONTROL PANEL. SHIELDS FOUND TO HAVE CONTINUITY LESS THAN 100K OHM TO GROUND SHALL BE REJECTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEARING SHIELD GROUND FAULTS.

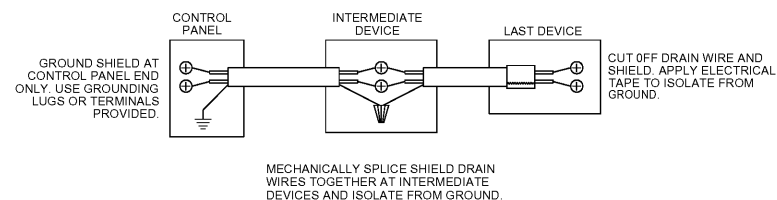
GENERAL NON-EMS CONTROLS NOTES:

- COMBUSTION AIR VENTILATION AND OTHER EQUIPMENT
 - CONTROLS FOR COMBUSTION AIR VENTILATION AND ANY OTHER EQUIPMENT NOT SPECIFICALLY MENTIONED IN THE EMS SCHEDULES SHALL BE FURNISHED AND INSTALLED ACCORDING TO THE MECHANICAL AND ELECTRICAL BID DOCUMENTS.
- EXHAUST FAN, TRANSFER FAN AND OTHER "HARD-WIRED" INTERLOCKS (SEE INTERLOCK EXAMPLE BELOW)
 - WHEN HARD-WIRED INTERLOCKING IS SPECIFIED IN THE MECHANICAL AND/OR ELECTRICAL SCHEDULES, THE INTERLOCKS SHALL BE FURNISHED AND INSTALLED BY THE TRADES SPECIFIED. INTERLOCKING IS NOT PART OF
 - WHERE EXHAUST FAN AND RTU INTERLOCKS ARE CALLED OUT, THE CONTRACTOR SHALL CONNECT DIRECTLY TO THE SUPPLY FAN CONTACTOR COIL AND WIRE IN PARALLEL TO THE COIL OF A PROPERLY SIZED CONTACTOR COIL STARTER SERVING THE INTERLOCKED EQUIPMENT. DO NOT USE THE EMS SYSTEM TO INTERLOCK EQUIPMENT.
- LIFE SAFETY AND FIRE ALARM SYSTEMS
 - LIFE SAFETY AND FIRE ALARM SYSTEMS ARE NOT PART OF THE EMS SYSTEM AND SHALL BE FURNISHED AND INSTALLED AS SPECIFIED IN THE MECHANICAL AND ELECTRICAL BID DOCUMENTS.
 - MECHANICAL EQUIPMENT SHUTDOWN SHALL BE WIRED AS TO NOT AFFECT THE EMS SYSTEM.
- MANUFACTURER SUPPLIED HUMIDITY CONTROLLERS
 - DEHUMIDIFYING ROOFTOP UNITS
 - SOME ROOFTOP UNITS MAY COME EQUIPPED WITH A HUMIDIFICATION CYCLE AND SPACE HUMIDITY SENSOR. THIS SENSOR SHALL BE INSTALLED IN ADDITION TO THE EMS SYSTEM AND ACCORDING TO THE MANUFACTURER'S INSTRUCTION.

EXAMPLES FOR 3-PHASE EQUIPMENT INTERLOCKING



MULTIPLE SEGMENT EXAMPLE



DATE	REVISION

BIG LOTS
14154 E. WADE HAMPTON BLVD.
GREER, SOUTH CAROLINA 29651

SQUARE FOOTAGE	Area	SqFt
SALES FLOOR	25,685	
TOTAL BUILDING	39,910	

DATE DRAWN:	04-02-19
DRAWN BY:	F.A.
SCALE:	3/8" = 1'-0"

BIG LOTS STORES, INC.
STORE PLANNING DEPT.
4800 E. DUBLIN GRANVILLE RD
COLUMBUS, OHIO 43081
PHONE: (614) 278-6800

