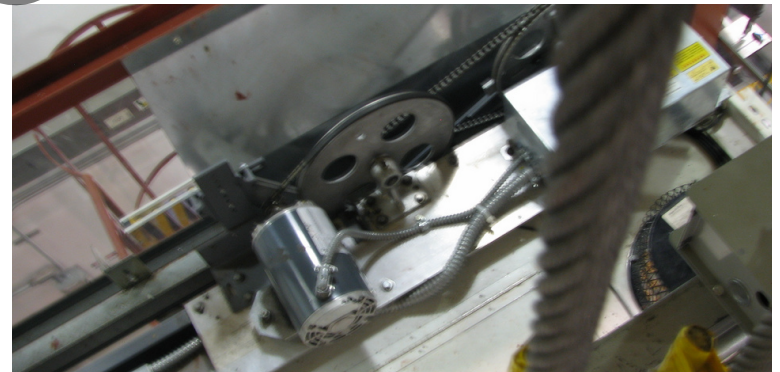
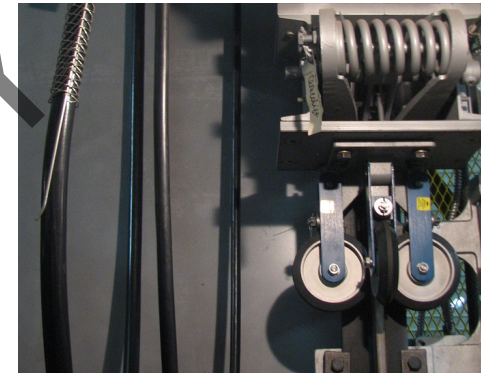
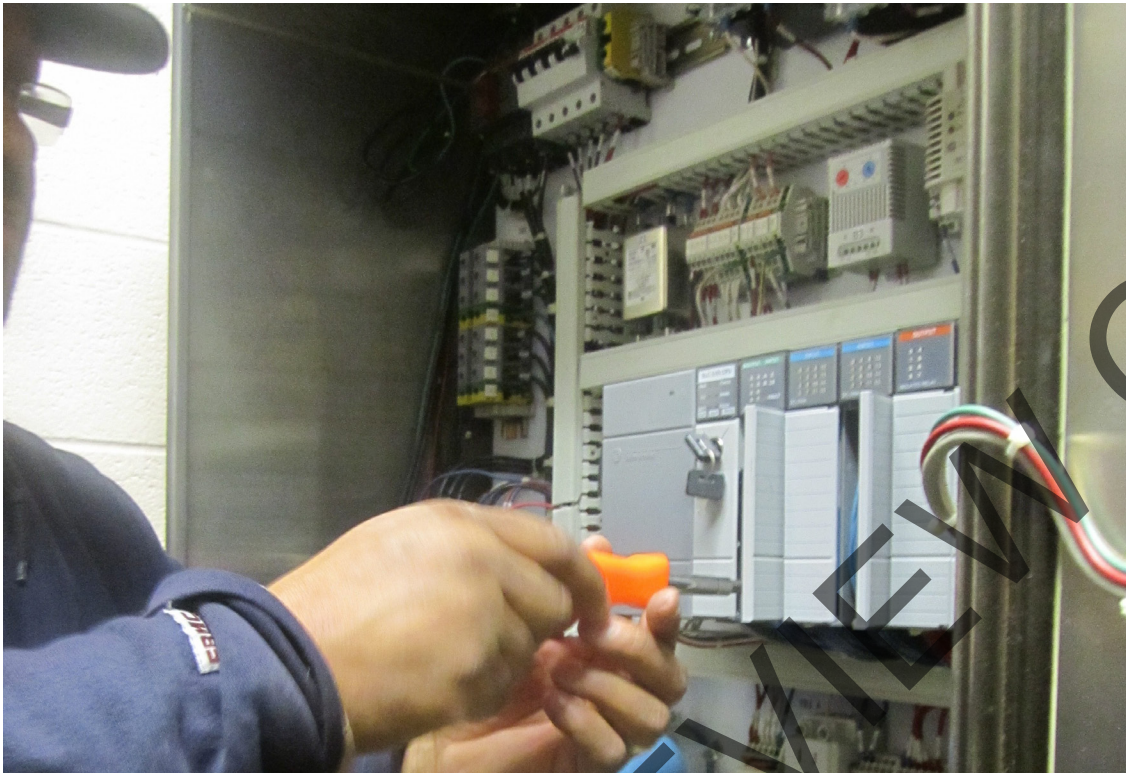


Instructor Guide



301: Electrical/Electronic Systems Module 2: Motor Drive Electrical Systems



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PREVIEW ONLY

Elevator-Escalator – Motor Drive Electrical Systems

Instructor's Guide



Icons Used In This Guide



REVIEW slides



ASK



CLASSROOM ACTIVITY



SMALL GROUP ACTIVITY



INDIVIDUAL ACTIVITY



WRITE



Multimedia



REFER participants to

Agenda

Topic #	Topic Title	Duration
1	Overview	30 Minutes
2	Disconnecting Main Power	50 Minutes
3	Field Trip	120 Minutes
4	Operating Parameters	50 Minutes
5	Motor Overloads	50 Minutes
6	Field Trip	120 Minutes
7	Summary	30 Minutes
	Total Time:	450 Minutes

PREVIEW ONLY

Elevator-Escalator – Motor Drive Electrical Systems

Instructor's Guide



Overview

Purpose The purpose of this module is to:

Provide a brief overview of motor drive electrical systems – from motor overload protection to motor drive programming parameters – used in a transit elevator and escalator system.

Objectives

At the end of this lesson, the transit elevator/escalator trainee will be able to:

- Identify methods of disconnecting main power
- Demonstrate ability to disconnect main power
- Locate and record the operating parameters for a given AC drive unit at your authority
- Identify the different types of electrical motor protection devices

Materials

Mandatory Make sure you have the following

- PowerPoint Presentation
- Coursebook
- Quizzes
- Pencils

Optional

You may also want the following for optional activities:

- Chalk board with chalk, large paper with marker, etc.
- Internet connection
- Lab, simulator or out of service elevator
- Lock-out/Tag-out items
- Motor protection devices

Elevator-Escalator – Motor Drive Electrical Systems

Instructor's Guide



Module Length: 450 min

Time remaining: 450 min

This section: 30 min (14 slides) Section start time: _____

Section End Time: _____

DO



REVIEW introduction slides

Instructor's Notes

SAY

In your own words:

Welcome to the course on Motor Drive Electrical Systems.

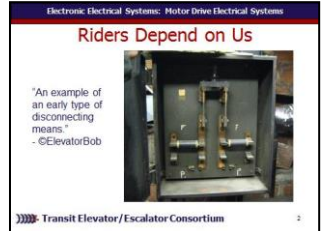
Advance

Riders depend on us. Here is an example of an early type of disconnecting means – something we will be talking about in this module.

Advance

Materials Needed

✓ PPT slides 1, 2



Elevator-Escalator – Motor Drive Electrical Systems

Instructor's Guide



Module Length: 450 min

Time remaining: 450 min

This section: 30 min (14 slides) Section start time: _____

Section End Time: _____

DO

SAY

Materials Needed



REVIEW slide



ASK

Instructor's Notes

In your own words:

ASK: What is a motor drive?
Allow participant to discuss possible answers.

Motor drives are electronic units designed specifically for applications where motor speed control is required. There are two types of motor drives, AC and DC.

Advance Both drives use solid state components

Advance to control motor direction, speed, and motor acceleration/deceleration time.

Advance AC drives are designed to control three-phase AC motors while DC drives are designed to control DC motors.

Advance

✓ PPT slide 6



Elevator-Escalator – Motor Drive Electrical Systems

Instructor's Guide



Module Length: 450 min

Time remaining: 450 min

This section: 30 min (14 slides) Section start time: _____

Section End Time: _____

DO



REVIEW slides



REFER participants to Course Book 2-1, Overview

Instructor's Notes

SAY

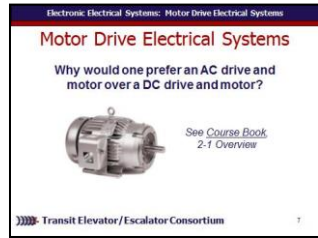
In your own words:

Why would one prefer an AC drive and motor over a DC drive and motor?
REFER participants to section 2-1 in their course book. Allow them a few minutes to read over. Discuss possible answers.
Advance

AC drives are often referred to as adjustable or variable-frequency drives and are the most commonly used drives in escalator and elevator systems. AC drives are easily configured to vary the speed of a three-phase motor. Three-phase motors typically require very little maintenance and are more economical as compared to single phase AC motors and DC motors.
Continued

Materials Needed

✓ PPT slides 7, 8



✓ Course Book

Elevator-Escalator – Motor Drive Electrical Systems

Instructor's Guide



Module Length: 450 min

Time remaining: 450 min

This section: 30 min (14 slides) Section start time: _____

Section End Time: _____

DO	SAY	Materials Needed
<div data-bbox="28 464 144 578" data-label="Image"> </div> <div data-bbox="173 499 270 549" data-label="Text"> <p>ASK</p> </div> <div data-bbox="28 792 454 842" data-label="Section-Header"> <h3>Instructor's Notes</h3> </div> <hr/> <hr/> <hr/> <hr/> <hr/>	<div data-bbox="666 421 1033 471" data-label="Section-Header"> <p>In your own words:</p> </div> <div data-bbox="666 471 1391 578" data-label="Text"> <p>Lets see what we have learned so far: Name at least 4 functions of a motor drive.</p> </div> <div data-bbox="666 635 1246 728" data-label="Text"> <p>Call on participants for answer Advance for the correct answer</p> </div> <div data-bbox="666 728 1294 1085" data-label="List-Group"> <p>Possible Answers:</p> <ul style="list-style-type: none"> ✓ Overload protection ✓ Motor speed control ✓ Motor acceleration/deceleration time ✓ Motor torque compensation ✓ Various stopping methods ✓ Fault monitoring ✓ Programmable set speeds </div> <div data-bbox="666 1149 840 1199" data-label="Text"> <p>Advance</p> </div>	<div data-bbox="1487 464 1758 514" data-label="Text"> <p>✓PPT slide 12</p> </div> <div data-bbox="1535 528 1864 763" data-label="Image"> </div>

Elevator-Escalator – Motor Drive Electrical Systems

Instructor's Guide



Module Length: 450 min

Time remaining: 450 min

This section: 30 min (14 slides) Section start time: _____

Section End Time: _____

DO

SAY

Materials Needed



ASK

In your own words:

Jim would like to know the types of information found on a motor drive display. What would you tell Jim?

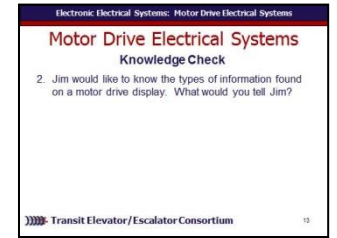
Call on participants for answer
Advance for the correct answer

Possible Answers:

- Motor voltage
- Current
- Frequency
- Drive temperature
- Motor and circuit fault conditions
- Ground faults
- Phase loses
- Advanced programming features

Advance

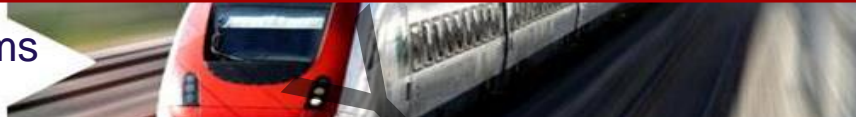
✓PPT slide 13



Instructor's Notes

Elevator-Escalator – Motor Drive Electrical Systems

Instructor's Guide



Module Length: 450 min

Time remaining: 420 min

This section: 50 min (14 slides) Section start time: _____

Section End Time: _____

DO

SAY

Materials Needed



REVIEW slide



ASK

Instructor's Notes

In your own words:

Advance Apply lockout/tagout devices in accordance with policy.

Advance Test each phase conductor using adequately rated voltage detector.

Advance And ground phase conductors where the possibility exists for induced or stored energy.

ASK: What do we know about lockout/tagout?

Allow participants to share possible answers.

ASK: What is a zero energy state?

Allow participants to share possible answers.

Advance

✓ PPT slide 17, 18



Elevator-Escalator – Motor Drive Electrical Systems

Instructor's Guide



Module Length: 450 min

Time remaining: 420 min

This section: 50 min (14 slides) Section start time: _____

Section End Time: _____

DO

SAY

Materials Needed



REVIEW slide



ASK

Instructor's Notes

In your own words:

Disconnect refers to the act of interrupting or causing an opening in an electrical circuit. In addition to turning off whatever load is consuming this electricity, disconnecting allows for the isolation of the downstream circuit for purposes of inspection and maintenance.

Advance

✓ PPT slide 18



Elevator-Escalator – Motor Drive Electrical Systems

Instructor's Guide



Module Length: 450 min

Time remaining: 420 min

This section: 50 min (14 slides) Section start time: _____

Section End Time: _____

DO

SAY

Materials Needed



REVIEW slide

Instructor's Notes

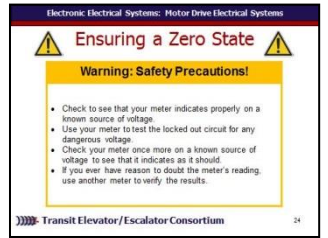
In your own words:

There is always a possibility that the voltage meter in use can be defective. A meter failing to indicate voltage on a live circuit could lead to serious consequences. Following these steps will help ensure that you're never misled into a deadly situation by a broken meter. While this may seem excessive, it is a proven technique for preventing electrical shock.

Always remember -

- Check to see that your meter indicates properly on a known source of voltage.
- Use your meter to test the locked out circuit for any dangerous voltage.
- Check your meter once more on a known source of voltage to see that it indicates as it should.
- If you ever have reason to doubt the meter's reading, use another meter to verify the results. **Advance**

✓ PPT slide 24



Elevator-Escalator – Motor Drive Electrical Systems

Instructor's Guide



Module Length: 450 min

Time remaining: 420 min

This section: 50 min (14 slides) Section start time: _____

Section End Time: _____

DO	SAY	Materials Needed
<div data-bbox="28 464 144 578" data-label="Image"> </div> <div data-bbox="173 499 270 549" data-label="Text"> <p>ASK</p> </div> <div data-bbox="28 792 454 842" data-label="Section-Header"> <h3>Instructor's Notes</h3> </div> <hr/> <hr/> <hr/> <hr/> <hr/>	<div data-bbox="666 421 1033 471" data-label="Section-Header"> <p>In your own words:</p> </div> <div data-bbox="666 471 1323 521" data-label="Text"> <p>Lets see what we have learned so far:</p> </div> <div data-bbox="666 535 1323 621" data-label="Text"> <p>Check appropriate steps to achieve an electrically safe condition.</p> </div> <div data-bbox="666 635 1439 1021" data-label="List-Group"> <ul style="list-style-type: none"> <input type="checkbox"/> Operate car without load <input type="checkbox"/> Visually verify all blades of disconnecting devices are fully open or withdrawn <input type="checkbox"/> Transfer system to standby power <input type="checkbox"/> Determine all sources of electrical supply <input type="checkbox"/> Ground phase conductors where possibility exists for induced or stored energy </div> <div data-bbox="666 1028 1246 1071" data-label="Text"> <p>Call on participants for answer</p> </div> <div data-bbox="666 1071 1246 1113" data-label="Text"> <p>Advance for the correct answer</p> </div>	<div data-bbox="1487 471 1758 514" data-label="Text"> <p>✓PPT slide 25</p> </div> <div data-bbox="1535 528 1864 763" data-label="Image"> </div>

Elevator-Escalator – Motor Drive Electrical Systems

Instructor's Guide



Module Length: 450 min

Time remaining: 250 min

This section: 50 min (20 slides) Section start time: _____

Section End Time: _____

DO



REVIEW slide



REFER participants

Instructor's Notes

SAY

In your own words:

REFER participants to their course book.

The LED display on the Digital Operator consists of five digits and their significance. You can see here the

Advance

Parameter identification

Advance

Parameter group

Advance

Parameter offset

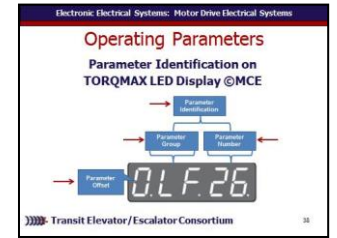
Advance

And Parameter number

Advance

Materials Needed

✓ PPT slide 38



✓ Course Book

Elevator-Escalator – Motor Drive Electrical Systems

Instructor's Guide



Module Length: 450 min

Time remaining: 250 min

This section: 50 min (20 slides) Section start time: _____

Section End Time: _____

DO



REVIEW slide



REFER participants

Instructor's Notes

SAY

In your own words:

REFER participants to their course book and the table for Basic Parameter Programming.

In your course book is a sample of some basic programming parameters for one of the six TORQMAX parameter groups.

Advance

The structure of these groups is comprised of assigned letters and number ranges. For example, the letters LF apply to parameters that allow the user to program the drive for the given job specifications such as motor data, mechanical data, and speeds. The assigned parameter groups and number ranges are listed in the following table.

Advance

Materials Needed

✓ PPT slide 39, 40

Parameter Group	Parameter Number Range	Description
LF	2-40	Allows user to program drive for given job specifications: Motor data, mechanical data, speeds, etc.
LF	1-21	Used to configure the inverter control.
LF	10-23	Used to configure the advanced controllers with the drive.
US	1-10	Comprises of configuration parameters, parameter value read, selection of control mode, selection drive set.
IN	0-40	Comprises of I/O parameters, for monitoring operation: I-A, digital inputs for fault, thermal protection.
EN	0-40	Comprises of parameters to setting the relay output functions.

Operating Parameters

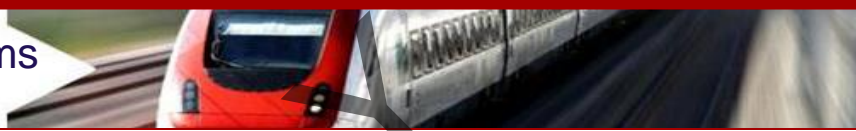
Basic Parameter Programming

- For one of six TORQMAX parameter groups
- Comprises of assigned letter and number ranges
 - Example: letters LF allow user to program drive for specifications such as motor data, mechanical data, and speeds

✓ Course Book

Elevator-Escalator – Motor Drive Electrical Systems

Instructor's Guide



Module Length: 450 min

Time remaining: 250 min

This section: 50 min (20 slides) Section start time: _____

Section End Time: _____

DO	SAY	Materials Needed
<div data-bbox="28 464 144 578" data-label="Image"> </div> <div data-bbox="173 499 270 549" data-label="Text"> <p>ASK</p> </div> <div data-bbox="28 792 454 842" data-label="Section-Header"> <h3>Instructor's Notes</h3> </div> <hr/> <hr/> <hr/> <hr/> <hr/>	<div data-bbox="666 421 1033 471" data-label="Section-Header"> <p>In your own words:</p> </div> <div data-bbox="666 471 1391 564" data-label="Text"> <p>Joe needs to learn how to save parameter values. What would you tell Joe?</p> </div> <div data-bbox="666 599 1236 649" data-label="Text"> <p>Call on participants for answer</p> </div> <div data-bbox="666 649 1400 699" data-label="Text"> <p>Advance once given the correct answer</p> </div> <div data-bbox="666 692 821 735" data-label="Text"> <p>Answer:</p> </div> <div data-bbox="666 735 1458 963" data-label="Text"> <p>If the parameter value is changed, a point appears behind the last position in the display. The adjusted parameter value is permanently saved when ENTER is pressed. The point after the value disappears to confirm.</p> </div> <div data-bbox="666 1042 840 1092" data-label="Text"> <p>Advance</p> </div>	<div data-bbox="1487 464 1758 514" data-label="Text"> <p>✓ PPT slide 49</p> </div> <div data-bbox="1535 528 1864 763" data-label="Image"> </div>

Elevator-Escalator – Motor Drive Electrical Systems

Instructor's Guide



Module Length: 450 min

Time remaining: 200 min

This section: 50 min (20 slides) Section start time: _____

Section End Time: _____

DO	SAY	Materials Needed
<div data-bbox="28 464 144 564" data-label="Image"> </div> <p data-bbox="173 499 425 542">REVIEW slide</p> <div data-bbox="28 592 144 692" data-label="Image"> </div> <p data-bbox="173 621 270 664">ASK</p> <p data-bbox="28 792 444 835">Instructor's Notes</p> <hr/> <hr/> <hr/> <hr/> <hr/>	<p data-bbox="676 421 1023 464">In your own words:</p> <p data-bbox="676 485 1304 571">ASK: What do we know about motor protection devices?</p> <p data-bbox="676 578 1323 656">Allow participants to share possible answers.</p> <p data-bbox="676 664 840 706">Advance</p> <p data-bbox="676 714 1439 971">Motors are constructed to operate under conditions for which they were designed. For example, if a piece of machinery requires three horsepower to operate, a motor with a three horsepower rating is required to provide the mechanical power for the operation.</p> <p data-bbox="676 978 1429 1106">Escalator and elevator motors are connected to control circuits that permit the stop/start operation of the driven equipment.</p> <p data-bbox="676 1113 840 1156">Advance</p> <p data-bbox="676 1163 1420 1285">The components of these circuits, along with the conductors they use, are sized to carry their respective load currents.</p> <p data-bbox="676 1292 840 1335">Advance</p>	<p data-bbox="1497 471 1748 514">✓ PPT slide 50</p> <div data-bbox="1535 528 1854 763" data-label="Image"> </div>

Elevator-Escalator – Motor Drive Electrical Systems

Instructor's Guide



Module Length: 450 min

Time remaining: 200 min

This section: 50 min (20 slides) Section start time: _____

Section End Time: _____

DO	SAY	Materials Needed
<div data-bbox="28 464 144 571" data-label="Image"> </div> <div data-bbox="173 499 425 549" data-label="Text"> <p>REVIEW slide</p> </div> <div data-bbox="28 792 454 842" data-label="Section-Header"> <h3>Instructor's Notes</h3> </div> <hr/> <hr/> <hr/> <hr/> <hr/>	<div data-bbox="666 421 1033 471" data-label="Section-Header"> <p>In your own words:</p> </div> <div data-bbox="666 485 1371 749" data-label="Text"> <p>Most new installations use Advance microprocessor-based motor protective relays which can be Advance programmed to provide Advance both overload and short-circuit protection.</p> </div> <div data-bbox="666 749 1429 885" data-label="Text"> <p>Advance These protective relays often also accept inputs from resistance temperature devices</p> </div> <div data-bbox="666 885 1391 978" data-label="Text"> <p>Advance imbedded in the motor windings (usually two per phase)</p> </div> <div data-bbox="666 978 1449 1149" data-label="Text"> <p>Advance and the relays are capable of displaying the winding and motor bearing temperatures, and provide both alarm and trip capability.</p> </div> <div data-bbox="666 1149 850 1199" data-label="Text"> <p>Advance</p> </div> <div data-bbox="666 1242 1362 1292" data-label="Text"> <p>Here is a resistance temperature device.</p> </div> <div data-bbox="666 1285 850 1335" data-label="Text"> <p>Advance</p> </div>	<div data-bbox="1487 471 1825 521" data-label="Text"> <p>✓ PPT slide 56, 57</p> </div> <div data-bbox="1535 528 1864 763" data-label="Image"> </div> <div data-bbox="1535 778 1864 1013" data-label="Image"> </div>

Elevator-Escalator – Motor Drive Electrical Systems

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Module Length: 450 min

Time remaining: 200 min

This section: 50 min (20 slides) Section start time: _____

Section End Time: _____

DO



REVIEW slide



REFER participants

Instructor's Notes

SAY

In your own words:

REFER participants to their course book.

The TORQMAX F5 will drop the carrier frequency to 4kHz if necessary to be able to continue to provide current to the motor. Once the output frequency rises above 3Hz or the current drops below the levels listed below, the carrier frequency will be returned to the higher value.

Advance

Here is the maximum stall current chart for 203V

Review chart with participants.

Advance

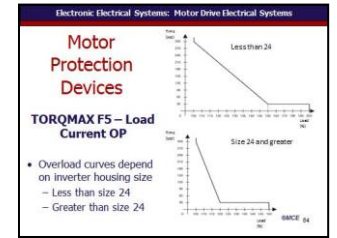
And here is the maximum stall current chart for 160V

Review chart with participants.

Advance

Materials Needed

✓ PPT slide 64, 65, 66



Electronic Electrical Systems: Motor Drive Electrical Systems

Motor Protection Devices

TORQMAX F5 – Load Current OP

Rated Housing	Carrier Frequency (Hz)	Current (A)
1	10	10.0
2	15	15.0
3	20	20.0
4	25	25.0
5	30	30.0
6	35	35.0
7	40	40.0
8	45	45.0
9	50	50.0
10	55	55.0
11	60	60.0
12	65	65.0
13	70	70.0
14	75	75.0
15	80	80.0
16	85	85.0
17	90	90.0
18	95	95.0
19	100	100.0
20	105	105.0
21	110	110.0
22	115	115.0
23	120	120.0
24	125	125.0
25	130	130.0
26	135	135.0
27	140	140.0
28	145	145.0
29	150	150.0
30	155	155.0
31	160	160.0
32	165	165.0
33	170	170.0
34	175	175.0
35	180	180.0
36	185	185.0
37	190	190.0
38	195	195.0
39	200	200.0
40	205	205.0
41	210	210.0
42	215	215.0
43	220	220.0
44	225	225.0
45	230	230.0
46	235	235.0
47	240	240.0
48	245	245.0
49	250	250.0
50	255	255.0
51	260	260.0
52	265	265.0
53	270	270.0
54	275	275.0
55	280	280.0
56	285	285.0
57	290	290.0
58	295	295.0
59	300	300.0
60	305	305.0
61	310	310.0
62	315	315.0
63	320	320.0
64	325	325.0
65	330	330.0
66	335	335.0
67	340	340.0
68	345	345.0
69	350	350.0
70	355	355.0
71	360	360.0
72	365	365.0
73	370	370.0
74	375	375.0
75	380	380.0
76	385	385.0
77	390	390.0
78	395	395.0
79	400	400.0
80	405	405.0
81	410	410.0
82	415	415.0
83	420	420.0
84	425	425.0
85	430	430.0
86	435	435.0
87	440	440.0
88	445	445.0
89	450	450.0
90	455	455.0
91	460	460.0
92	465	465.0
93	470	470.0
94	475	475.0
95	480	480.0
96	485	485.0
97	490	490.0
98	495	495.0
99	500	500.0
100	505	505.0
101	510	510.0
102	515	515.0
103	520	520.0
104	525	525.0
105	530	530.0
106	535	535.0
107	540	540.0
108	545	545.0
109	550	550.0
110	555	555.0
111	560	560.0
112	565	565.0
113	570	570.0
114	575	575.0
115	580	580.0
116	585	585.0
117	590	590.0
118	595	595.0
119	600	600.0
120	605	605.0
121	610	610.0
122	615	615.0
123	620	620.0
124	625	625.0
125	630	630.0
126	635	635.0
127	640	640.0
128	645	645.0
129	650	650.0
130	655	655.0
131	660	660.0
132	665	665.0
133	670	670.0
134	675	675.0
135	680	680.0
136	685	685.0
137	690	690.0
138	695	695.0
139	700	700.0
140	705	705.0
141	710	710.0
142	715	715.0
143	720	720.0
144	725	725.0
145	730	730.0
146	735	735.0
147	740	740.0
148	745	745.0
149	750	750.0
150	755	755.0
151	760	760.0
152	765	765.0
153	770	770.0
154	775	775.0
155	780	780.0
156	785	785.0
157	790	790.0
158	795	795.0
159	800	800.0
160	805	805.0
161	810	810.0
162	815	815.0
163	820	820.0
164	825	825.0
165	830	830.0
166	835	835.0
167	840	840.0
168	845	845.0
169	850	850.0
170	855	855.0
171	860	860.0
172	865	865.0
173	870	870.0
174	875	875.0
175	880	880.0
176	885	885.0
177	890	890.0
178	895	895.0
179	900	900.0
180	905	905.0
181	910	910.0
182	915	915.0
183	920	920.0
184	925	925.0
185	930	930.0
186	935	935.0
187	940	940.0
188	945	945.0
189	950	950.0
190	955	955.0
191	960	960.0
192	965	965.0
193	970	970.0
194	975	975.0
195	980	980.0
196	985	985.0
197	990	990.0
198	995	995.0
199	1000	1000.0
200	1005	1005.0
201	1010	1010.0
202	1015	1015.0
203	1020	1020.0
204	1025	1025.0
205	1030	1030.0
206	1035	1035.0
207	1040	1040.0
208	1045	1045.0
209	1050	1050.0
210	1055	1055.0
211	1060	1060.0
212	1065	1065.0
213	1070	1070.0
214	1075	1075.0
215	1080	1080.0
216	1085	1085.0
217	1090	1090.0
218	1095	1095.0
219	1100	1100.0
220	1105	1105.0
221	1110	1110.0
222	1115	1115.0
223	1120	1120.0
224	1125	1125.0
225	1130	1130.0
226	1135	1135.0
227	1140	1140.0
228	1145	1145.0
229	1150	1150.0
230	1155	1155.0
231	1160	1160.0
232	1165	1165.0
233	1170	1170.0
234	1175	1175.0
235	1180	1180.0
236	1185	1185.0
237	1190	1190.0
238	1195	1195.0
239	1200	1200.0
240	1205	1205.0
241	1210	1210.0
242	1215	1215.0
243	1220	1220.0
244	1225	1225.0
245	1230	1230.0
246	1235	1235.0
247	1240	1240.0
248	1245	1245.0
249	1250	1250.0
250	1255	1255.0
251	1260	1260.0
252	1265	1265.0
253	1270	1270.0
254	1275	1275.0
255	1280	1280.0
256	1285	1285.0
257	1290	1290.0
258	1295	1295.0
259	1300	1300.0
260	1305	1305.0
261	1310	1310.0
262	1315	1315.0
263	1320	1320.0
264	1325	1325.0
265	1330	1330.0
266	1335	1335.0
267	1340	1340.0
268	1345	1345.0
269	1350	1350.0
270	1355	1355.0
271	1360	1360.0
272	1365	1365.0
273	1370	1370.0
274	1375	1375.0
275	1380	1380.0
276	1385	1385.0
277	1390	1390.0
278	1395	1395.0
279	1400	1400.0
280	1405	1405.0
281	1410	1410.0
282	1415	1415.0
283	1420	1420.0
284	1425	1425.0
285	1430	1430.0
286	1435	1435.0
287	1440	1440.0
288	1445	1445.0
289	1450	1450.0
290	1455	1455.0
291	1460	1460.0
292	1465	1465.0
293	1470	1470.0
294	1475	1475.0
295	1480	1480.0
296	1485	1485.0
297	1490	1490.0
298	1495	1495.0
29		

Elevator-Escalator – Motor Drive Electrical Systems

Instructor's Guide



Module Length: 450 min

Time remaining: 30 min

This section: 30 min (3 slides)

Section start time: _____

Section End Time: _____

DO

SAY

Materials Needed



**CLASSROOM
ACTIVITY**



INDIVIDUAL ACTIVITY

Instructor's Notes

In your own words:

Administer quizzes.

- ✓ PPT slides 73
- ✓ Quizzes
- ✓ Pencils

