

# ISO 8528-4:2005-06 (E)

## Reciprocating internal combustion engine driven alternating current generating sets - Part 4: Controlgear and switchgear

---

	Contents	Page
<b>Foreword</b>		iv
1	<b>Scope</b>	1
2	<b>Normative references</b>	1
3	<b>Other regulations and additional requirements</b>	2
4	<b>General equipment requirements</b>	2
4.1	<b>Mounting</b>	2
4.2	<b>Construction</b>	2
4.3	<b>Operating voltage</b>	2
4.4	<b>Rated frequency</b>	2
4.5	<b>Rated current</b>	2
4.6	<b>Control circuit voltage</b>	3
4.7	<b>Starter battery systems</b>	3
4.8	<b>Environmental conditions</b>	3
4.9	<b>Enclosure and degree of protection</b>	3
5	<b>Generating set switchgear</b>	4
5.1	<b>General</b>	4
5.2	<b>Load-switching devices</b>	5
5.3	<b>Fault current ratings</b>	5
5.4	<b>Cables and interconnections</b>	5
5.5	<b>Generator protection</b>	5
6	<b>Control modes</b>	6
6.1	<b>General</b>	6
6.2	<b>Hand start/hand stop</b>	6
6.3	<b>Local electric start/hand stop</b>	6
6.4	<b>Local electric start/electric stop</b>	6
6.5	<b>Remote start/electric stop</b>	6
6.6	<b>Automatic start/automatic stop</b>	6
6.7	<b>Start on demand</b>	6
6.8	<b>Standby-to-mains control</b>	6
6.9	<b>Dual mutual standby control</b>	7
6.10	<b>Triple mutual standby control</b>	7
6.11	<b>Dual mutual standby-to-mains control</b>	7
6.12	<b>Parallel operation</b>	8
6.13	<b>Means of stopping</b>	10
7	<b>Generating set monitoring</b>	10
7.1	<b>General</b>	10
7.2	<b>Electrical instrumentation</b>	10
7.3	<b>Electrical protection and supervisory control</b>	10
7.4	<b>Engine protection system</b>	14
7.5	<b>Engine instrumentation</b>	14
	<b>Bibliography</b>	18