

| Application Note #       | Rev | Drive Family              | Topic                                  |
|--------------------------|-----|---------------------------|--|
| <a href="#">CTAN 110</a> | 1.2 | Mentor II/Quantum III     | Security Codes                         |
| <a href="#">CTAN 111</a> | 1.4 | Mentor II/Quantum III     | Programmable Analog I/O                |
| <a href="#">CTAN 112</a> | 1.2 | Quantum III               | Independent Jog Rates                  |
| <a href="#">CTAN 113</a> | 1.2 | Mentor II/Quantum III     | Simple Ratio Scheme                    |
| <a href="#">CTAN 114</a> | 1.5 | Unidrive                  | MOP Applications                       |
| <a href="#">CTAN 115</a> | 1.4 | Unidrive                  | Analog Ratio Applications              |
| <a href="#">CTAN 116</a> | 1.1 | Unidrive                  | UniSoft & Option Modules               |
| <a href="#">CTAN 117</a> | 1.3 | Unidrive                  | Unidrive Security Code                 |
| <a href="#">CTAN 118</a> | 1.6 | Unidrive                  | Digital Locking Basics                 |
| <a href="#">CTAN 119</a> | 1.3 | Unidrive                  | Parameter Restoration/Cloning          |
| <a href="#">CTAN 120</a> | 1.3 | All                       | S-Ramp Accel/Decel Ramps               |
| <a href="#">CTAN 121</a> | 1.6 | Mentor II/Quantum III     | Pseudo S-Ramp                          |
| <a href="#">CTAN 122</a> | 1.3 | MII/QIII/Unidrive/SE      | Programmable Time Delays               |
| <a href="#">CTAN 123</a> | 1.2 | Mentor II/Quantum III     | Current Loop Tuning                    |
| <a href="#">CTAN 124</a> | 1.2 | MII/QIII/Unidrive/SE      | Filtering for Digital Displays         |
| <a href="#">CTAN 125</a> | A   | Focus 3                   | Replacing Focus 2 with Focus 3 Drives  |
| <a href="#">CTAN 126</a> | 1.0 | Mentor                    | Cooling Fan Data                       |
| <a href="#">CTAN 127</a> | 1.1 | AC Drives                 | Common Bus Guidelines                  |
| <a href="#">CTAN 128</a> | 1.0 | UD70/MD29                 | Copy Data in Arrays                    |
| <a href="#">CTAN 129</a> | 1.0 | UD75/MD29AN               | Detecting CTNet Comms Loss             |
| <a href="#">CTAN 130</a> | 1.1 | Focus 3                   | Tach Follower Applications             |
| <a href="#">CTAN 131</a> | 1.2 | All                       | Modem Communications                   |
| <a href="#">CTAN 132</a> | 1.3 | All                       | Line Reactors                          |
| <a href="#">CTAN 133</a> | 1.0 | Mentor I/Quantum II       | MD21 BASIC Support today               |
| <a href="#">CTAN 134</a> | 1.0 | UD77/Unidrive             | Local/Remote via Fieldbus              |
| <a href="#">CTAN 135</a> | 1.4 | UD77/Unidrive             | DeviceNet Quick Setup                  |
| <a href="#">CTAN 136</a> | 1.0 | UD73/Unidrive             | Profibus Quick Setup                   |
| <a href="#">CTAN 137</a> | 1.0 | UD74/Unidrive             | Interbus Quick Setup                   |
| <a href="#">CTAN 138</a> | 1.0 | Quantum III               | Remote On/Off Control                  |
| <a href="#">CTAN 139</a> | 1.3 | Quantum III/Mentor II     | Contactless ( Machine Gun ) Jog        |
| <a href="#">CTAN 140</a> | 1.3 | MII/QIII/Unidrive/SE      | Programmable Logic Gates               |
| <a href="#">CTAN 141</a> | 1.1 | MII/QIII/Unidrive         | Combinatorial Logic                    |
| <a href="#">CTAN 142</a> | 1.1 | Unidrive /MII/QIII        | Comparators and Decoder Applications   |
| <a href="#">CTAN 143</a> | 1.1 | Commander SE              | Indexing Methods                       |
| <a href="#">CTAN 144</a> | 1.3 | All                       | Line Reactors & Isolation Transformers |
| <a href="#">CTAN 145</a> | A   | Unidrive and Commander SE | Analog Input/Output Scaling            |

\* not yet released

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| <a href="#">CTAN 146</a>  | 1.1        | Unidrive Servo                       | Thermal Protection Set-up               |
| <a href="#">CTAN 147</a>  | 1.1        | AC Drives                            | Horizon Replacement w/ Comm SE          |
| <a href="#">CTAN 148</a>  | 1.1        | AC Drives                            | Prism Replacement w/ Comm SE            |
| <a href="#">CTAN 149</a>  | 1.3        | AC Drives                            | Laser Replacement Options               |
| <a href="#">CTAN 150</a>  | 1.0        | AC Drives                            | Eclipse Replacement Options             |
| <a href="#">CTAN 151</a>  | 1.0        | Commander SE                         | Security Code                           |
| <a href="#">CTAN 152</a>  | 1.3        | Quantum/Mentor                       | Hi Hp Drives Field Selection-Size 2 & 3 |
| <a href="#">CTAN 153</a>  | 1.0        | Unidrive                             | Cabinet Cooling Fan Optimization        |
| <a href="#">CTAN 154</a>  | 1.5        | All                                  | Driving External Relays                 |
| <a href="#">CTAN 155</a>  | 1.5        | Quantum III/ Mentor II               | Thread/Run Speeds                       |
| <a href="#">CTAN 156</a>  | 1.2        | Quantum III/ Mentor II               | Auto/Manual Operation                   |
| <a href="#">CTAN 157</a>  | 1.0        | Quantum III                          | Quantum III Factory Default Files       |
| <a href="#">CTAN 158</a>  | 1.1        | Quantum III/ Mentor II               | Load Sharing Applications               |
| <a href="#">CTAN 159</a>  | 1.4        | All                                  | Creating Custom & Power-Up Displays     |
| <a href="#">CTAN 160</a>  | 1.1        | All                                  | 4-20ma Current Loop Control             |
| <a href="#">CTAN 161</a>  | 1.2        | Unidrive Family                      | Dual Stopping Rates                     |
| <a href="#">CTAN 162</a>  | 1.2        | Commander SE Family                  | Dual Stopping Rates                     |
| <a href="#">CTAN 163</a>  | 1.2        | Quantum III/Mentor II                | Dual Stopping Rates                     |
| <a href="#">CTAN 164</a>  | 1.1        | Unidrive Family                      | Remote Keypad Control using CTIU        |
| <a href="#">CTAN 165</a>  | 1.1        | Commander SE                         | Modbus Protocol Setup                   |
| <a href="#">CTAN 166</a>  | 1.0        | Quantum III/ Mentor II               | Upgrading MD21 to MD29                  |
| <a href="#">CTAN 167</a>  | 1.0        | Quantum III/ Mentor II               | Timed Starting Current                  |
| <a href="#">CTAN 168</a>  | 1.1        | Commander SE                         | External Pushbutton Jog Control         |
| <a href="#">CTAN 169</a>  | 1.0        | Unidrive Family                      | UD78 Precision Analog Input Module      |
| <a href="#">CTAN 170</a>  | 1.0        | Unidrive Family                      | Shaft Orientation                       |
| <a href="#">CTAN 171</a>  | 1.1        | MD29/UD70 and SyPT                   | Scale & Offset Function Blocks          |
| <a href="#">CTAN 172</a>  | 1.1        | Quantum III                          | Universal Spares                        |
| <a href="#">CTAN 173</a>  | 1.1        | Unidrive Size 1,2 / Comm SE          | Operating from DC Power Supplies        |
| <a href="#">CTAN 174</a>  | 1.0        | Commander SE                         | Line Speed plus %Trim                   |
| <a href="#">CTAN 175</a>  | 1.3        | Quantum III/Mentor II<br>( Size 2-3) | Field Economy w/ Time Delay             |
| <a href="#">CTAN 176</a>  | 1.1        | General                              | Power Factor of AC & DC Drive           |
| <a href="#">CTAN 177</a>  | 1.2        | AC Drive Series                      | Input & Output Current of AC Drives     |
| <a href="#">CTAN 178</a>  | 1.0        | Unidrive                             | Speed Loop Tuning                       |
| <a href="#">CTAN 179</a>  | 1.1        | General                              | Dynamic Braking Resistor Nomograph      |
| <a href="#">CTAN 180</a>  | 1.3        | Commander SE                         | Advanced CTKP Control for Comm SE       |
| <a href="#">CTAN 181*</a> |            | Unidrive                             | Torque Mode/Torque Follower             |
| <a href="#">CTAN 182</a>  | 1.5        | Unidrive                             | Data Replacement Instructions           |
| <a href="#">CTAN 183</a>  | 1.0        | Unidrive                             | Line Speed plus %Trim                   |
| <a href="#">CTAN 184</a>  | 1.1        | Focus 1                              | Pushbutton Control                      |
| <a href="#">CTAN 185*</a> |            | Commander SE                         | Start/Stop Configurations               |
| <a href="#">CTAN 186</a>  | 1.1        | Unidrive/QIII/Mentor II              | Saving all Drive & Coprocessor Data     |
| <a href="#">CTAN 187</a>  | 1.2        | Commander SE                         | Simple Commander SE Torque Winder       |

\*not yet released

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| <a href="#">CTAN 188</a>  | 1.1        | Quantum III/ Mentor II           | %Load Meter Outputs                                 |
| <a href="#">CTAN 189</a>  |            |                                  |   |
| <a href="#">CTAN 190</a>  | 1.1        | Quantum III/ Mentor II           | Tension Follower-Torque w/Spd Override              |
| <a href="#">CTAN 191</a>  | 1.2        | Commander SE                     | Non-Standard Commander SE Keypad Control Variations |
| <a href="#">CTAN 192</a>  | 1.0        | AC Drives                        | Dynamic Braking Resistor Protection                 |
| <a href="#">CTAN 193</a>  | 1.5        | Quantum III / Mentor II          | Data Replacement Instructions                       |
| <a href="#">CTAN 194</a>  | 1.3        | Unidrive                         | AC Motor Condensation Elimination                   |
| <a href="#">CTAN 195</a>  | 1.1        | Commander SE                     | HVAC Local/Remote Control                           |
| <a href="#">CTAN 196</a>  | 1.0        | MD25 / Mentor II                 | Quick Setup for DeviceNet MD25                      |
| <a href="#">CTAN 197</a>  | 1.0        | MD25 / Quantum III               | Quick Setup for DeviceNet MD25                      |
| <a href="#">CTAN 198</a>  | 1.0        | Quantum III/ Mentor II           | Creating an "About to Start" Warning                |
| <a href="#">CTAN199</a>   | 1.3        | Quantum III                      | How to Specify Quantum III Drives                   |
| <a href="#">CTAN200</a>   | 1.0        | Unidrive                         | Selecting 1 of 2 Values                             |
| <a href="#">CTAN 201</a>  | 1.1        | Unidrive, Quantum III, Mentor II | Creating a Blinking Light                           |
| <a href="#">CTAN 202</a>  | 1.0        | CTNet Capable Products           | CTNet PCMCIA w/Desktop PC's                         |
| <a href="#">CTAN 203</a>  | 1.2        | Quantum III / Mentor II          | DC Motors w/ 240VDC Field Voltage                   |
| <a href="#">CTAN 204</a>  | 1.0        | Focus 3 Drives                   | Power Wiring Guidelines                             |
| <a href="#">CTAN 205</a>  | 1.3        | Quantum III Family               | Spectrum Drive Replacement                          |
| <a href="#">CTAN 206</a>  | 1.2        | Quantum III Family               | VIP Drive Replacement                               |
| <a href="#">CTAN 207</a>  | 1.1        | Quantum III Family               | ES2300RG Drive Replacement                          |
| <a href="#">CTAN 208</a>  | 1.0        | Unidrive ExpressPak              | AS5100 Series Drive Replacement                     |
| <a href="#">CTAN 209</a>  | 1.1        | CTKP                             | Security Code & Set-Up                              |
| <a href="#">CTAN 210</a>  | 1.0        | UD76/Unidrive                    | ModbusPlus Quick Setup                              |
| <a href="#">CTAN 211</a>  | 1.0        | Unidrive                         | UD7x Co-Processor Replacement                       |
| <a href="#">CTAN 212</a>  | 1.3        | Quantum III/ Mentor II           | Creating UniPolar %Speed Meter O/P                  |
| <a href="#">CTAN 213</a>  | 1.1        | Focus 3                          | Eddy Current Controller Retrofit                    |
| <a href="#">CTAN 214</a>  | 1.1        | Quantum III/ Mentor II           | Mentor II vs Quantum III                            |
| <a href="#">CTAN 215</a>  | 1.0        | Focus Family                     | Earth Grounding & Isolation                         |
| <a href="#">CTAN 216</a>  | 1.0        | Focus 3 Family                   | Eddy Current Replacement Solution                   |
| <a href="#">CTAN 217</a>  | 1.0        | Universal AC Interface           | 120vac Logic Interface                              |
| <a href="#">CTAN 218</a>  | 1.0        | Quantum III/ Mentor II           | Starting Kick for Machine Breakaway                 |
| <a href="#">CTAN 219</a>  | 1.0        | MD29 & UD7x CoProcessors         | Evaluating Coprocessor Contents                     |
| <a href="#">CTAN 220</a>  | 1.0        | MD24 / Mentor II                 | Quick Setup for Profibus MD24                       |
| <a href="#">CTAN 221</a>  | 1.0        | MD24 / Quantum III               | Quick Setup for Profibus MD24                       |
| <a href="#">CTAN 222</a>  | 1.0        | Commander SE                     | Automatic Water Pressure Regulator                  |
| <a href="#">CTAN 223</a>  | 1.0        | Quantum III/ Mentor II           | Inversion Faults                                    |
| <a href="#">CTAN 224</a>  | 1.0        | Quantum III                      | Interfacing a PLC to the Quantum III                |
| <a href="#">CTAN 225</a>  | 1.3        | Commander SE                     | Use of Cloning QuicKey                              |
| <a href="#">CTAN 226</a>  | 1.1        | Quantum III                      | MOP Function w/Min Speed and Jog                    |
| <a href="#">CTAN 227</a>  | 1.1        | Unidrive SP                      | Understanding Heavy vs Normal Duty                  |
| <a href="#">CTAN 228</a>  | 1.0        | Focus 1 Family                   | Achieving Isolation                                 |

\*not yet released

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| <a href="#">CTAN 229</a>  | 1.0 | Commander SE   | Bi-Directional Speed Pot Applications             |
| <a href="#">CTAN 230</a>  | 1.0 | Unidrive   | Zero Speed Reference Start Interlock              |
| <a href="#">CTAN 231</a>  | 1.0 | Quantum III  | Zero Speed Reference Start Interlock              |
| <a href="#">CTAN 232</a>  | 1.2 | Unidrive SP  | Non-Standard UnidriveSP Keypad Command Variations |
| <a href="#">CTAN 233</a>  | 1.0 | Unidrive SP  | Using the MOP with the UnidriveSP                 |
| <a href="#">CTAN 234</a>  | 1.0 | Unidrive SP  | A Guide to Tuning the UnidriveSP                  |
| <a href="#">CTAN 235</a>  | 1.0 | Focus 3  | Adjustable Brake / Dynamometer App's              |
| <a href="#">CTAN 236</a>  | 1.2 | Commander SE   | Data Replacement Instructions                     |
| <a href="#">CTAN 237</a>  | 1.0 | Quantum III/Mentor II                                  | Adjustable Brake / Dynamometer App's              |
| <a href="#">CTAN 238</a>  | 1.0 | Unidrive SP  | Unidrive SP Feedback Modules                      |
| <a href="#">CTAN 239</a>  | 1.0 | Commander SE   | Analog Input Configurations                       |
| <a href="#">CTAN 240</a>  | 1.0 | Focus 3  | Speed Master w/ Torque Slave                      |
| <a href="#">CTAN 241</a>  | 1.0 | Focus 3  | 120vac Remote Control Pushbuttons                 |
| <a href="#">CTAN 242*</a> | 1.0 | All  | Interfacing Analog Meters                         |
| <a href="#">CTAN 243</a>  | 1.0 | Focus 3  | Controlling Multiple Drives in Tandem             |
| <a href="#">CTAN 244</a>  | 1.0 | Focus 1, Focus 3, CommSE                               | Focus Isolated Master Reference Board             |
| <a href="#">CTAN 245</a>  | 1.1 | CTIU HMI's   | Creating a Custom Splash Screen                   |
| <a href="#">CTAN 246</a>  | 1.0 | Unidrive & CTIU HMI's                                  | Creating a Unidrive Fault Screen                  |
| <a href="#">CTAN 247</a>  | 1.0 | Unidrive & CTIU HMI's                                  | Creating a Fault History Screen                   |
| <a href="#">CTAN 248</a>  | 1.0 | CTIU HMI's   | Custom Splash Screen using Maths                  |
| <a href="#">CTAN 249</a>  |     |  |   |
| <a href="#">CTAN 250</a>  | 1.0 | Unidrive SP  | Customizing the LCD Keypad Unit                   |
| <a href="#">CTAN 251</a>  | 1.0 | Unidrive Classic                                       | 4-20mA Control Guidelines                         |
| <a href="#">CTAN 252</a>  | 1.0 | Focus 3  | Local/Remote Control Modes                        |
| <a href="#">CTAN 253</a>  | 1.0 | Commander SE   | Line Speed plus Trim using Inc/Dec                |
| <a href="#">CTAN 254</a>  | 1.0 | Commander SE   | Fan & Pump Setup Guidelines                       |
| <a href="#">CTAN 255</a>  | 1.0 | UD75 & MD29AN  | CTNet Revision FAQ's                              |
| <a href="#">CTAN 256</a>  | 1.1 | Unidrive SP  | Stegmann Encoder w/Hiperface                      |
| <a href="#">CTAN 257</a>  | 1.0 | Quantum III  | Quantum II to QIII Conversion Guide               |
| <a href="#">CTAN 258</a>  | 1.0 | Commander SE, Unidrive Classic, Mentor II/ Quantum III | Creating Proper Drive Documentation               |
| <a href="#">CTAN 259</a>  | 1.0 | Unidrive SP  | Quick Setup Guide w/CTNet                         |
| <a href="#">CTAN 260</a>  | 1.0 | Commander SE   | Setting up with a CTIU                            |
| <a href="#">CTAN 261</a>  | 1.0 | Unidrive SP  | Setting up with a CTIU                            |
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|                           |     |  |   |
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| <a href="#">CTAN 265</a>  | 1.0 | Unidrive Classic                                       | DigitAx Replacement Solution                      |
| <a href="#">CTAN 266</a>  | 1.0 | All  | Relay Suppression                                 |
|                           |     |  |   |
|                           |     |  |   |

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All of these Application Notes are available on our website in .pdf format at:

<http://www.emersonct.com/>

## Quantum III / Mentor II Application Notes

[http://www.emersonct.com/download\\_usa/appNotesDC.htm](http://www.emersonct.com/download_usa/appNotesDC.htm)

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| <a href="#">CTAN 110</a>  | 1.2        | Mentor II/Quantum III                | Security Codes                          |
| <a href="#">CTAN 111</a>  | 1.4        | Mentor II/Quantum III                | Programmable Analog I/O                 |
| <a href="#">CTAN 112</a>  | 1.2        | Quantum III                          | Independent Jog Rates                   |
| <a href="#">CTAN 113</a>  | 1.2        | Mentor II/Quantum III                | Simple Ratio Scheme                     |
| <a href="#">CTAN 121</a>  | 1.6        | Mentor II/Quantum III                | Pseudo S-Ramp                           |
| <a href="#">CTAN 122</a>  | 1.3        | MII/QIII/Unidrive/SE                 | Programmable Time Delays                |
| <a href="#">CTAN 123</a>  | 1.2        | Mentor II/Quantum III                | Current Loop Tuning                     |
| <a href="#">CTAN 124</a>  | 1.2        | MII/QIII/Unidrive/SE                 | Filtering for Digital Displays          |
| <a href="#">CTAN 126</a>  | 1.0        | Mentor                               | Cooling Fan Data                        |
| <a href="#">CTAN 133</a>  | 1.0        | Mentor I/Quantum II                  | MD21 BASIC Support today                |
| <a href="#">CTAN 138</a>  | 1.0        | Quantum III                          | Remote On/Off Control                   |
| <a href="#">CTAN 139</a>  | 1.3        | Quantum III/Mentor II                | Contactless ( Machine Gun ) Jog         |
| <a href="#">CTAN 140</a>  | 1.3        | MII/QIII/Unidrive/SE                 | Programmable Logic Gates                |
| <a href="#">CTAN 141</a>  | 1.1        | MII/QIII/Unidrive                    | Combinatorial Logic                     |
| <a href="#">CTAN 142</a>  | 1.1        | Unidrive /MII/QIII                   | Comparators and Decoder Applications    |
| <a href="#">CTAN 152</a>  | 1.3        | Quantum/Mentor                       | Hi Hp Drives Field Selection-Size 2 & 3 |
| <a href="#">CTAN 154</a>  | 1.5        | All                                  | Driving External Relays                 |
| <a href="#">CTAN 155</a>  | 1.5        | Quantum III/ Mentor II               | Thread/Run Speeds                       |
| <a href="#">CTAN 156</a>  | 1.2        | Quantum III/ Mentor II               | Auto/Manual Operation                   |
| <a href="#">CTAN 157</a>  | 1.0        | Quantum III                          | Quantum III Factory Default Files       |
| <a href="#">CTAN 158</a>  | 1.1        | Quantum III/ Mentor II               | Load Sharing Applications               |
| <a href="#">CTAN 159</a>  | 1.4        | All                                  | Creating Custom & Power-Up Displays     |
| <a href="#">CTAN 160</a>  | 1.0        | All                                  | 4-20ma Current Loop Control             |
| <a href="#">CTAN 163</a>  | 1.2        | Quantum III/Mentor II                | Dual Stopping Rates                     |
| <a href="#">CTAN 166</a>  | 1.0        | Quantum III/ Mentor II               | Upgrading MD21 to MD29                  |
| <a href="#">CTAN 167</a>  | 1.0        | Quantum III/ Mentor II               | Timed Starting Current                  |
| <a href="#">CTAN 172</a>  | 1.1        | Quantum III                          | Universal Spares                        |
| <a href="#">CTAN 175</a>  | 1.3        | Quantum III/Mentor II<br>( Size 2-3) | Field Economy w/ Time Delay             |
| <a href="#">CTAN 186</a>  | 1.1        | Unidrive/QIII/Mentor II              | Saving all Drive & Coprocessor Data     |
| <a href="#">CTAN 188</a>  | 1.1        | Quantum III/ Mentor II               | %Load Meter Outputs                     |
| <a href="#">CTAN 190</a>  | 1.1        | Quantum III/ Mentor II               | Tension Follower-Torque w/Spd Override  |
| <a href="#">CTAN 193</a>  | 1.5        | Quantum III / Mentor II              | Data Replacement Instructions           |
| <a href="#">CTAN 196</a>  | 1.0        | Mentor II                            | Quick Setup for DeviceNet MD25          |
| <a href="#">CTAN 197</a>  | 1.0        | Quantum III                          | Quick Setup for DeviceNet MD25          |
| <a href="#">CTAN 198</a>  | 1.0        | Quantum III/ Mentor II               | Creating an "About to Start" Warning    |
| <a href="#">CTAN 199</a>  | 1.2        | Quantum III                          | How to Specify Quantum III Drives       |
| <a href="#">CTAN 201</a>  | 1.1        | Unidrive, Quantum III,<br>Mentor II  | Creating a Blinking Light               |
| <a href="#">CTAN 203</a>  | 1.2        | Quantum III / Mentor II              | DC Motors w/ 240VDC Field Voltage       |
| <a href="#">CTAN 205</a>  | 1.3        | Quantum III Family                   | Spectrum Drive Replacement              |
| <a href="#">CTAN 212</a>  | 1.3        | Quantum III/ Mentor II               | Creating UniPolar %Speed Meter O/P      |
| <a href="#">CTAN 214</a>  | 1.1        | Quantum III/ Mentor II               | Mentor II vs Quantum III                |





# Unidrive Application Notes

[http://www.emersonct.com/download\\_usa/appNotesAC.htm](http://www.emersonct.com/download_usa/appNotesAC.htm)

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| <a href="#">CTAN 114</a>  | 1.5        | Unidrive                         | MOP Applications                       |
| <a href="#">CTAN 115</a>  | 1.4        | Unidrive                         | Analog Ratio Applications              |
| <a href="#">CTAN 116</a>  | 1.1        | Unidrive                         | UniSoft & Option Modules               |
| <a href="#">CTAN 117</a>  | 1.3        | Unidrive                         | Unidrive Security Code                 |
| <a href="#">CTAN 118</a>  | 1.6        | Unidrive                         | Digital Locking Basics                 |
| <a href="#">CTAN 119</a>  | 1.3        | Unidrive                         | Parameter Restoration/Cloning          |
| <a href="#">CTAN 120</a>  | 1.3        | All                              | S-Ramp Accel/Decel Ramps               |
| <a href="#">CTAN 122</a>  | 1.3        | MII/QIII/Unidrive/SE             | Programmable Time Delays               |
| <a href="#">CTAN 124</a>  | 1.2        | MII/QIII/Unidrive/SE             | Filtering for Digital Displays         |
| <a href="#">CTAN 127</a>  | 1.1        | AC Drives                        | Common Bus Guidelines                  |
| <a href="#">CTAN 131</a>  | 1.2        | All                              | Modem Communications                   |
| <a href="#">CTAN 132</a>  | 1.3        | All                              | Line Reactors                          |
| <a href="#">CTAN 140</a>  | 1.3        | MII/QIII/Unidrive/SE             | Programmable Logic Gates               |
| <a href="#">CTAN 141</a>  | 1.1        | MII/QIII/Unidrive                | Combinatorial Logic                    |
| <a href="#">CTAN 142</a>  | 1.1        | Unidrive /MII/QIII               | Comparators and Decoder Applications   |
| <a href="#">CTAN 144</a>  | 1.3        | All                              | Line Reactors & Isolation Transformers |
| <a href="#">CTAN 145</a>  | A          | Unidrive and Commander SE        | Analog Input/Output Scaling            |
| <a href="#">CTAN 146</a>  | 1.1        | Unidrive Servo                   | Thermal Protection Set-up              |
| <a href="#">CTAN 153</a>  | 1.0        | Unidrive                         | Cabinet Cooling Fan Optimization       |
| <a href="#">CTAN 154</a>  | 1.5        | All                              | Driving External Relays                |
| <a href="#">CTAN 159</a>  | 1.4        | All                              | Creating Custom & Power-Up Displays    |
| <a href="#">CTAN 160</a>  | 1.1        | All                              | 4-20ma Current Loop Control            |
| <a href="#">CTAN 161</a>  | 1.2        | Unidrive Family                  | Dual Stopping Rates                    |
| <a href="#">CTAN 164</a>  | 1.1        | Unidrive Family                  | Remote Keypad Control using CTIU       |
| <a href="#">CTAN 169</a>  | 1.0        | Unidrive Family                  | UD78 Precision Analog Input Module     |
| <a href="#">CTAN 170</a>  | 1.0        | Unidrive Family                  | Shaft Orientation                      |
| <a href="#">CTAN 173</a>  | 1.1        | Unidrive Size 1 & 2              | Operating from DC Power Supplies       |
| <a href="#">CTAN 178</a>  | 1.0        | Unidrive                         | Speed Loop Tuning                      |
| <a href="#">CTAN 179</a>  | 1.1        | General                          | Dynamic Braking Resistor Nomograph     |
| <a href="#">CTAN 181*</a> |            | Unidrive                         | Torque Mode/Torque Follower            |
| <a href="#">CTAN 182</a>  | 1.5        | Unidrive                         | Data Replacement Instructions          |
| <a href="#">CTAN 183</a>  | 1.0        | Unidrive                         | Line Speed plus %Trim                  |
| <a href="#">CTAN 186</a>  | 1.1        | Unidrive/QIII/Mentor II          | Saving all Drive & Coprocessor Data    |
| <a href="#">CTAN 194</a>  | 1.3        | Unidrive                         | AC Motor Condensation Elimination      |
| <a href="#">CTAN 200</a>  | 1.0        | Unidrive                         | Selecting 1 of 2 Values                |
| <a href="#">CTAN 201</a>  | 1.1        | Unidrive, Quantum III, Mentor II | Creating a Blinking Light              |
| <a href="#">CTAN 208</a>  | 1.0        | Unidrive ExpressPak              | AS5100 Series Drive Replacement        |
| <a href="#">CTAN 209</a>  | 1.1        | CTKP                             | Security Code & Set-Up                 |
| <a href="#">CTAN 211</a>  | 1.0        | Unidrive                         | UD7x Co-Processor Replacement          |
| <a href="#">CTAN 230</a>  | 1.0        | Unidrive                         | Zero Speed Reference Start Interlock   |

## Unidrive Application Notes-con't

[http://www.emersonct.com/download\\_usa/appNotesAC.htm](http://www.emersonct.com/download_usa/appNotesAC.htm)

| <b>Application Note #</b> | <b>Rev</b> | <b>Drive Family</b>   | <b>Topic</b>                        |
|---------------------------|------------|-----------------------|-------------------------------------|
| <a href="#">CTAN 246</a>  | 1.0        | Unidrive & CTIU HMI's | Creating a Unidrive Fault Screen    |
| <a href="#">CTAN 247</a>  | 1.0        | Unidrive & CTIU HMI's | Creating a Fault History Screen     |
| <a href="#">CTAN 251</a>  | 1.0        | Unidrive Classic      | 4-20mA Control Guidelines           |
| <a href="#">CTAN 258</a>  | 1.0        | Unidrive Classic      | Creating Proper Drive Documentation |
| <a href="#">CTAN 265</a>  | 1.0        | Unidrive Classic      | DigitAx Replacement Solution        |
| <a href="#">CTAN 266</a>  | 1.0        | All                   | Relay Suppression                   |



## Unidrive SP Application Notes

[http://www.emersonct.com/download\\_usa/appNotesAC.htm](http://www.emersonct.com/download_usa/appNotesAC.htm)

| <b>Application Note #</b> | <b>Rev</b> | <b>Drive Family</b> | <b>Topic</b>                                      |
|---------------------------|------------|---------------------|---|
| <a href="#">CTAN 227</a>  | 1.1        | Unidrive SP         | Understanding Heavy vs Normal Duty                |
| <a href="#">CTAN 232</a>  | 1.2        | Unidrive SP         | Non-Standard UnidriveSP Keypad Command Variations |
| <a href="#">CTAN 233</a>  | 1.0        | Unidrive SP         | Using the MOP with the UnidriveSP                 |
| <a href="#">CTAN 234</a>  | 1.0        | Unidrive SP         | A Guide to Tuning the UnidriveSP                  |
| <a href="#">CTAN 238</a>  | 1.0        | Unidrive SP         | Unidrive SP Feedback Modules                      |
| <a href="#">CTAN 250</a>  | 1.0        | Unidrive SP         | Customizing the LCD Keypad Unit                   |
| <a href="#">CTAN 256</a>  | 1.1        | Unidrive SP         | Stegmann Encoder w/Hiperface                      |
| <a href="#">CTAN 259</a>  | 1.0        | Unidrive SP         | Quick Setup Guide w/CTNet                         |
| <a href="#">CTAN 266</a>  | 1.0        | All                 | Relay Suppression                                 |
|                           |            |                     |   |
|                           |            |                     |   |
|                           |            |                     |   |
|                           |            |                     |   |
|                           |            |                     |   |

# Commander SE Application Notes

[http://www.emersonct.com/download\\_usa/appNotesAC.htm](http://www.emersonct.com/download_usa/appNotesAC.htm)

| <b>Application Note #</b> | <b>Rev</b> | <b>Drive Family</b>       | <b>Topic</b>  |
|---------------------------|------------|---------------------------|---|
| <a href="#">CTAN 122</a>  | 1.3        | MII/QIII/Unidrive/SE      | Programmable Time Delays                            |
| <a href="#">CTAN 124</a>  | 1.2        | MII/QIII/Unidrive/SE      | Filtering for Digital Displays                      |
| <a href="#">CTAN 140</a>  | 1.3        | MII/QIII/Unidrive/SE      | Programmable Logic Gates                            |
| <a href="#">CTAN 142</a>  | 1.1        | Unidrive /MII/QIII        | Comparators and Decoder Applications                |
| <a href="#">CTAN 143</a>  | 1.1        | Commander SE              | Indexing Methods                                    |
| <a href="#">CTAN 144</a>  | 1.3        | All                       | Line Reactors & Isolation Transformers              |
| <a href="#">CTAN 145</a>  | A          | Unidrive and Commander SE | Analog Input/Output Scaling                         |
| <a href="#">CTAN 147</a>  | 1.1        | AC Drives                 | Horizon Replacement w/ Comm SE                      |
| <a href="#">CTAN 148</a>  | 1.1        | AC Drives                 | Prism Replacement w/ Comm SE                        |
| <a href="#">CTAN 149</a>  | 1.3        | AC Drives                 | Laser Replacement Options                           |
| <a href="#">CTAN 150</a>  | 1.0        | AC Drives                 | Eclipse Replacement Options                         |
| <a href="#">CTAN 151</a>  | 1.0        | Commander SE              | Security Code                                       |
| <a href="#">CTAN 154</a>  | 1.5        | All                       | Driving External Relays                             |
| <a href="#">CTAN 159</a>  | 1.4        | All                       | Creating Custom & Power-Up Displays                 |
| <a href="#">CTAN 160</a>  | 1.0        | All                       | 4-20ma Current Loop Control                         |
| <a href="#">CTAN 162</a>  | 1.2        | Commander SE              | Dual Stopping Rates                                 |
| <a href="#">CTAN 165</a>  | 1.1        | Commander SE              | Modbus Protocol Setup                               |
| <a href="#">CTAN 168</a>  | 1.1        | Commander SE              | External Pushbutton Jog Control                     |
| <a href="#">CTAN 173</a>  | 1.1        | Commander SE              | Operating from DC Power Supplies                    |
| <a href="#">CTAN 174</a>  | 1.0        | Commander SE              | Line Speed plus %Trim                               |
| <a href="#">CTAN 180</a>  | 1.3        | Commander SE              | Advanced CTKP Control for Comm SE                   |
| <a href="#">CTAN 185*</a> |            | Commander SE              | Start/Stop Configurations                           |
| <a href="#">CTAN 187</a>  | 1.2        | Commander SE              | Simple Commander SE Torque Winder                   |
| <a href="#">CTAN 191</a>  | 1.2        | Commander SE              | Non-Standard Commander SE Keypad Control Variations |
| <a href="#">CTAN 195</a>  | 1.1        | Commander SE              | HVAC Local/Remote Control                           |
| <a href="#">CTAN 209</a>  | 1.1        | CTKP                      | Security Code & Set-Up                              |
| <a href="#">CTAN 222</a>  | 1.0        | Commander SE              | Automatic Water Pressure Regulator                  |
| <a href="#">CTAN 225</a>  | 1.3        | Commander SE              | Use of Cloning QuickKey                             |
| <a href="#">CTAN 229</a>  | 1.0        | Commander SE              | Bi-Directional Speed Pot Applications               |
| <a href="#">CTAN 236</a>  | 1.2        | Commander SE              | Data Replacement Instructions                       |
| <a href="#">CTAN 239</a>  | 1.0        | Commander SE              | Analog Input Configurations                         |
| <a href="#">CTAN 244</a>  | 1.0        | Focus 1, Focus 3, CommSE  | Focus Isolated Master Reference Board               |
| <a href="#">CTAN 253</a>  | 1.0        | Commander SE              | Line Speed plus Trim using Inc/Dec                  |
| <a href="#">CTAN 254</a>  | 1.0        | Commander SE              | Fan & Pump Setup Guidelines                         |
| <a href="#">CTAN 258</a>  | 1.0        | Commander SE              | Creating Proper Drive Documentation                 |
| <a href="#">CTAN 260</a>  | 1.0        | Commander SE              | Setting up with a CTIU                              |

## **Focus Family Application Notes**

[http://www.emersonct.com/download\\_usa/appNotesDC.htm](http://www.emersonct.com/download_usa/appNotesDC.htm)

| <b>Application Note #</b> | <b>Rev</b> | <b>Drive Family</b>         | <b>Topic</b>                          |
|---------------------------|------------|-----------------------------|---------------------------------------|
| <a href="#">CTAN 125</a>  | A          | Focus 3                     | Replacing Focus 2 with Focus 3 Drives |
| <a href="#">CTAN 130</a>  | 1.1        | Focus 3                     | Tach Follower Applications            |
| <a href="#">CTAN 184</a>  | 1.1        | Focus 1                     | Pushbutton Control                    |
| <a href="#">CTAN 204</a>  | 1.0        | Focus 3 Drives              | Power Wiring Guidelines               |
| <a href="#">CTAN 213</a>  | 1.1        | Focus 3                     | Eddy Current Controller Retrofit      |
| <a href="#">CTAN 215</a>  | 1.0        | Focus Family                | Earth Grounding & Isolation           |
| <a href="#">CTAN 216</a>  | 1.0        | Focus 3 Family              | Eddy Current Replacement Solution     |
| <a href="#">CTAN 228</a>  | 1.0        | Focus 1 Family              | Achieving Isolation                   |
| <a href="#">CTAN 235</a>  | 1.0        | Focus 3                     | Adjustable Brake / Dynamometer App's  |
| <a href="#">CTAN 240</a>  | 1.0        | Focus 3                     | Speed Master w/ Torque Slave          |
| <a href="#">CTAN 241</a>  | 1.0        | Focus 3                     | 120vac Remote Control Pushbuttons     |
| <a href="#">CTAN 243</a>  | 1.0        | Focus 3                     | Controlling Multiple Drives in Tandem |
| <a href="#">CTAN 244</a>  | 1.0        | Focus 1, Focus 3,<br>CommSE | Focus Isolated Master Reference Board |
| <a href="#">CTAN 252</a>  | 1.0        | Focus 3                     | Local/Remote Control Modes            |

# Fieldbus, Communications & Coprocessor Application Notes

[http://www.emersonct.com/download\\_usa/appNotesAC.htm](http://www.emersonct.com/download_usa/appNotesAC.htm)

| <b>Application Note #</b> | <b>Rev</b> | <b>Drive Family</b>         | <b>Topic</b>                        |
|---------------------------|------------|-----------------------------|-------------------------------------|
| <a href="#">CTAN 131</a>  | 1.2        | All                         | Modem Communications                |
| <a href="#">CTAN 133</a>  | 1.0        | Mentor I/Quantum II         | MD21 BASIC Support today            |
| <a href="#">CTAN 134</a>  | 1.0        | UD77/Unidrive               | Local/Remote via Fieldbus           |
| <a href="#">CTAN 135</a>  | 1.4        | UD77/Unidrive               | DeviceNet Quick Setup               |
| <a href="#">CTAN 136</a>  | 1.0        | UD73/Unidrive               | Profibus Quick Setup                |
| <a href="#">CTAN 137</a>  | 1.0        | UD74/Unidrive               | Interbus Quick Setup                |
| <a href="#">CTAN 138</a>  | 1.0        | Quantum III                 | Remote On/Off Control               |
| <a href="#">CTAN 164</a>  | 1.1        | Unidrive Family             | Remote Keypad Control using CTIU    |
| <a href="#">CTAN 165</a>  | 1.1        | Commander SE                | Modbus Protocol Setup               |
| <a href="#">CTAN 166</a>  | 1.0        | Quantum III/ Mentor II      | Upgrading MD21 to MD29              |
| <a href="#">CTAN 171</a>  | 1.1        | MD29/UD70 and SyPT          | Scale & Offset Function Blocks      |
| <a href="#">CTAN 186</a>  | 1.1        | Unidrive/QIII/Mentor II     | Saving all Drive & Coprocessor Data |
| <a href="#">CTAN 196</a>  | 1.0        | MD25 / Mentor II            | Quick Set for DeviceNet MD25        |
| <a href="#">CTAN 197</a>  | 1.0        | MD25 / Quantum III          | Quick Set for DeviceNet MD25        |
| <a href="#">CTAN 202</a>  | 1.0        | CTNet Products              | CTNet PCMCIA w/Desktop PC's         |
| <a href="#">CTAN 210</a>  | 1.0        | UD76/Unidrive               | ModbusPlus Quick Setup              |
| <a href="#">CTAN 211</a>  | 1.0        | Unidrive                    | UD7x Co-Processor Replacement       |
| <a href="#">CTAN 219</a>  | 1.0        | MD29 & UD7x<br>CoProcessors | Evaluating Coprocessor Contents     |
| <a href="#">CTAN 220</a>  | 1.0        | MD24 / Mentor II            | Quick Setup for Profibus MD24       |
| <a href="#">CTAN 221</a>  | 1.0        | MD24 / Quantum III          | Quick Setup for Profibus MD24       |
| <a href="#">CTAN 255</a>  | 1.0        | UD75 & MD29AN               | CTNet Revision FAQ's                |
| <a href="#">CTAN 259</a>  | 1.0        | Unidrive SP                 | Quick Setup Guide w/CTNet           |

## General Drive Application Notes

| <b>Application Note #</b> | <b>Rev</b> | <b>Drive Family</b>    | <b>Topic</b>                           |
|---------------------------|------------|------------------------|--|
| <a href="#">CTAN 120</a>  | 1.3        | All                    | S-Ramp Accel/Decel Ramps               |
| <a href="#">CTAN 122</a>  | 1.3        | MII/QIII/Unidrive/SE   | Programmable Time Delays               |
| <a href="#">CTAN 124</a>  | 1.2        | MII/QIII/Unidrive/SE   | Filtering for Digital Displays         |
| <a href="#">CTAN 131</a>  | 1.2        | All                    | Modem Communications                   |
| <a href="#">CTAN 132</a>  | 1.3        | All                    | Line Reactors                          |
| <a href="#">CTAN 140</a>  | 1.3        | MII/QIII/Unidrive/SE   | Programmable Logic Gates               |
| <a href="#">CTAN 144</a>  | 1.3        | All                    | Line Reactors & Isolation Transformers |
| <a href="#">CTAN 154</a>  | 1.5        | All                    | Driving External Relays                |
| <a href="#">CTAN 159</a>  | 1.4        | All                    | Creating Custom & Power-Up Displays    |
| <a href="#">CTAN 160</a>  | 1.1        | All                    | 4-20ma Current Loop Control            |
| <a href="#">CTAN 176</a>  | 1.1        | General                | Power Factor of AC & DC Drive          |
| <a href="#">CTAN 177</a>  | 1.2        | AC Drive Series        | Input & Output Current of AC Drives    |
| <a href="#">CTAN 179</a>  | 1.1        | General                | Dynamic Braking Resistor Nomograph     |
| <a href="#">CTAN 192</a>  | 1.0        | AC Drives              | Dynamic Braking Resistor Protection    |
| <a href="#">CTAN 209</a>  | 1.1        | CTKP                   | Security Code & Set-Up                 |
| <a href="#">CTAN 217</a>  | 1.0        | Universal AC Interface | 120vac Logic Interface                 |
| <a href="#">CTAN 245</a>  | 1.1        | CTIU HMI's             | Creating a Custom Splash Screen        |
| <a href="#">CTAN 248</a>  | 1.0        | CTIU HMI's             | Custom Splash Screen using Maths       |
| <a href="#">CTAN 258</a>  | 1.0        | All                    | Creating Proper Drive Documentation    |
| <a href="#">CTAN 266</a>  | 1.0        | All                    | Relay Suppression                      |