Smartlink™

Improving Chain Performance With Technology

RENOLD
Superior Chain Technology

www.renold.com
Is Smartlink™ suitable for my application?

Is your problem caused by load?
Then yes, Smartlink™ is for you!

Is your problem caused by wear?
Talk to Renold about our market-leading chain range

Renold Smartlink™

Take advantage of Renold’s unique diagnostics technology to deliver maximum performance.

- Ensure the smooth running of your chain drive
- Understand loadings applied to the chain
- Diagnose problems with alignment
- Pinpoint potential causes of reduced chain life
- Increase your production efficiency

Smartlink: The world’s smallest data logger, unique to Renold
Smartlink™ can help you in different ways. With a tiny microprocessor attached to the side plate, the unit can detect the stresses experienced by the chain as it travels through your machine.

Acting as an overload detector and controlled with a small infra-red remote control unit, the system can indicate when your chain exceeds a pre-determined load. This gives you the warning you need to inspect the system and ensure that it is safe to continue running the machine. Smartlink™ gives you the ability to reset the alarm condition using the remote control.

To understand more about the working loads being applied to the chain drive there is a second level of diagnostics that Smartlink™ can provide using the same microprocessor unit on the chain but a higher level of sophistication in the remote handheld receiver. Using this receiver, more detailed information about the actual value of the load can be downloaded and transferred to a Windows-based PC. This data can be analysed to determine the exact location of the load peaks in the drive system.

Renold also has a much more sophisticated microprocessor available but this unit needs expert support, normally requiring the service of a Renold engineer. This solution would be used in situations where there are unresolved issues or in safety critical applications where an exact prediction of fatigue life is important.

Renold can work in partnership with you to resolve these sorts of issues. Having already helped major companies around the world including manufacturers of earth moving equipment, agricultural machinery, materials handling at ports and leisure rides at theme parks, Renold Smartlink™ represents a groundbreaking opportunity to fully understand system loads which may be detrimental to the perfect performance of your product.

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### Table 1: Comparison of Smartlink™ Units

<table>
<thead>
<tr>
<th>Chain size</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&quot;, 1.25&quot;, 1.5&quot; ANSI &amp; BS</td>
<td>1&quot; pitch and above</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sampling Rate</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>2Hz</td>
<td>4sec @ 4kHz / 1hr @ 1.3Hz</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recording Time</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>Days</td>
<td>4sec @ 4kHz / 1hr @ 1.3Hz</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resolution</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>typically 1/40th of 1/3rd of the breaking load</td>
<td>Typically 1/200th of 1/3rd of the breaking load</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Battery life</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approximately 1 year*</td>
<td>5-10 hours</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IP Protection (ability to resist ingress of liquid/debris)</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP66</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of information</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual Alarm</td>
<td></td>
<td>Visual Alarm</td>
<td>Waveform Data</td>
</tr>
<tr>
<td>Time at Level</td>
<td></td>
<td>Time at Level</td>
<td>Time at Level</td>
</tr>
<tr>
<td>Level Crossing</td>
<td></td>
<td>Level Crossing</td>
<td>Level Crossing</td>
</tr>
<tr>
<td>Rainflow Counting</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Temperature Range</th>
<th>Level 1</th>
<th>Level 2</th>
<th>Level 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-60ºC**</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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*Battery life depends on the time the unit remains switch on, amount of transmitted information and environment conditions.

**Please contact Renold if your application doesn’t meet the temperature requirements.

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**Dimensions for the different units.**

<table>
<thead>
<tr>
<th>Model</th>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smartlink 16B</td>
<td>52.00</td>
<td>20.42</td>
<td>13.00</td>
<td>17.73</td>
</tr>
<tr>
<td>Smartlink 80</td>
<td>52.00</td>
<td>20.42</td>
<td>13.00</td>
<td>17.73</td>
</tr>
<tr>
<td>Smartlink 20B</td>
<td>63.37</td>
<td>25.78</td>
<td>13.30</td>
<td>18.86</td>
</tr>
<tr>
<td>Smartlink 100</td>
<td>63.37</td>
<td>25.78</td>
<td>13.30</td>
<td>18.86</td>
</tr>
<tr>
<td>Smartlink 24B</td>
<td>78.79</td>
<td>30.89</td>
<td>13.30</td>
<td>19.88</td>
</tr>
<tr>
<td>Smartlink 120</td>
<td>78.79</td>
<td>30.89</td>
<td>13.30</td>
<td>19.88</td>
</tr>
</tbody>
</table>
Australia
Melbourne (Victoria)
Tel: +61 (0) 3 9262 3333
Fax: +61 (0) 3 9561 8561
e-mail: melsmg@renold.com.au
also at: Sydney, Brisbane, Adelaide, Perth, Newcastle, Wollongong, Townsville

Austria
Vienna
Tel: +43 (0) 1 330 3484
Fax: +43 (0) 1 330 3484-5
e-mail: office@renold.at
also at: Budapest (Hungary), Zlin (Czech Republic)

Belgium
Brussels
Tel: +32 (0) 2 201 1262
Fax: +32 (0) 2 203 2210
e-mail: info@renold.be

Canada
Montreal (Quebec)
Tel: +1 514 367 1764
Fax: +1 514 367 4993
e-mail: inquiry@renoldcanada.com

China
Shanghai
Tel: +86 21 5046 2696
Fax: +86 21 5046 2695
e-mail: sales@renold.cn

France
Seclin
Tel: +33 (0) 320 16 29 29
Fax: +33 (0) 320 16 29 00
e-mail: contact@brampton-renold.com

Germany
Einbeck
Tel: + 49 (0) 5562 810
Fax: +49 (0) 5562 81130
e-mail: info@renold.de
also at: Düsseldorf

India
Coimbatore
Tel: +91 - 422 2532325 / 3911108
Fax: +91 - 422 2532333 / 2534470
e-mail: marketing@renold.in

Malaysia
Selangor Darul Ehsan
Tel: +60 3-5122 7880
Fax: +60 3-5122 7881
e-mail: malaysia@renold.com
also at: Johor Bharu, Ipoh, Penang

Netherlands
Amsterdam
Tel: +31 (0) 20 6146661
Fax: +31 (0) 20 6146391
e-mail: info@renold.nl

New Zealand
Auckland
Tel: +64 9828 5018
Fax: +64 9828 5019
e-mail: alksales@renold.co.nz
also at: Christchurch

Poland
Tel: +48 663 842 487
e-mail: info@renold.pl

Russia
Moscow
Tel: +7 495 645 2250
Fax: +7 495 645 2251
e-mail: info@renold.ru

Scotland
Hvidovre (Copenhagen)
Tel: +45 43 45 26 11
Fax: +45 43 45 65 92
e-mail: info@renold.com

Singapore
Tel: +65 6760 2422
Fax: +65 6760 1507
e-mail: sales@renold.sg

South Africa
Benoni (Johannesburg)
Tel: +27 11 747 9500
Fax: +27 11 747 9505
e-mail: sales@renold.co.za
also at: Richards Bay, Port Elizabeth, Cape Town

Spain
Gavá (Barcelona)
Tel: +34 93 638 9641
Fax: +34 93 638 0737
e-mail: spain@renold.com

Switzerland
Dübendorf (Zürich)
Tel: +41 (0) 44 824 8484
Fax: +41 (0) 44 824 8411
e-mail: duebendorf@renold.com
also at: Crissier (Lausanne)

UK
Burton upon Trent
Tel: +44 (0) 1283 512940
Fax: +44 (0) 1283 512628
e-mail: ukchain@renold.com

USA
Morristown TN
Tel: +1 800 251 9012
Fax: +1 423 581 2399
e-mail: sales@renoldjeffrey.com

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