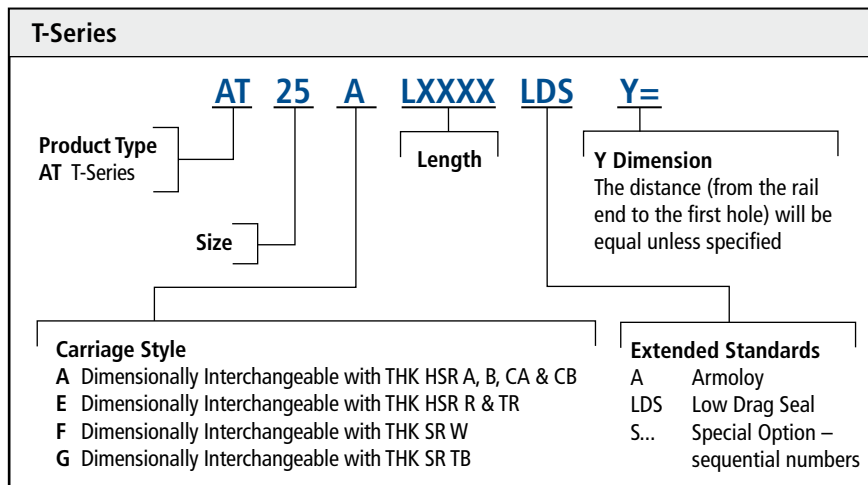
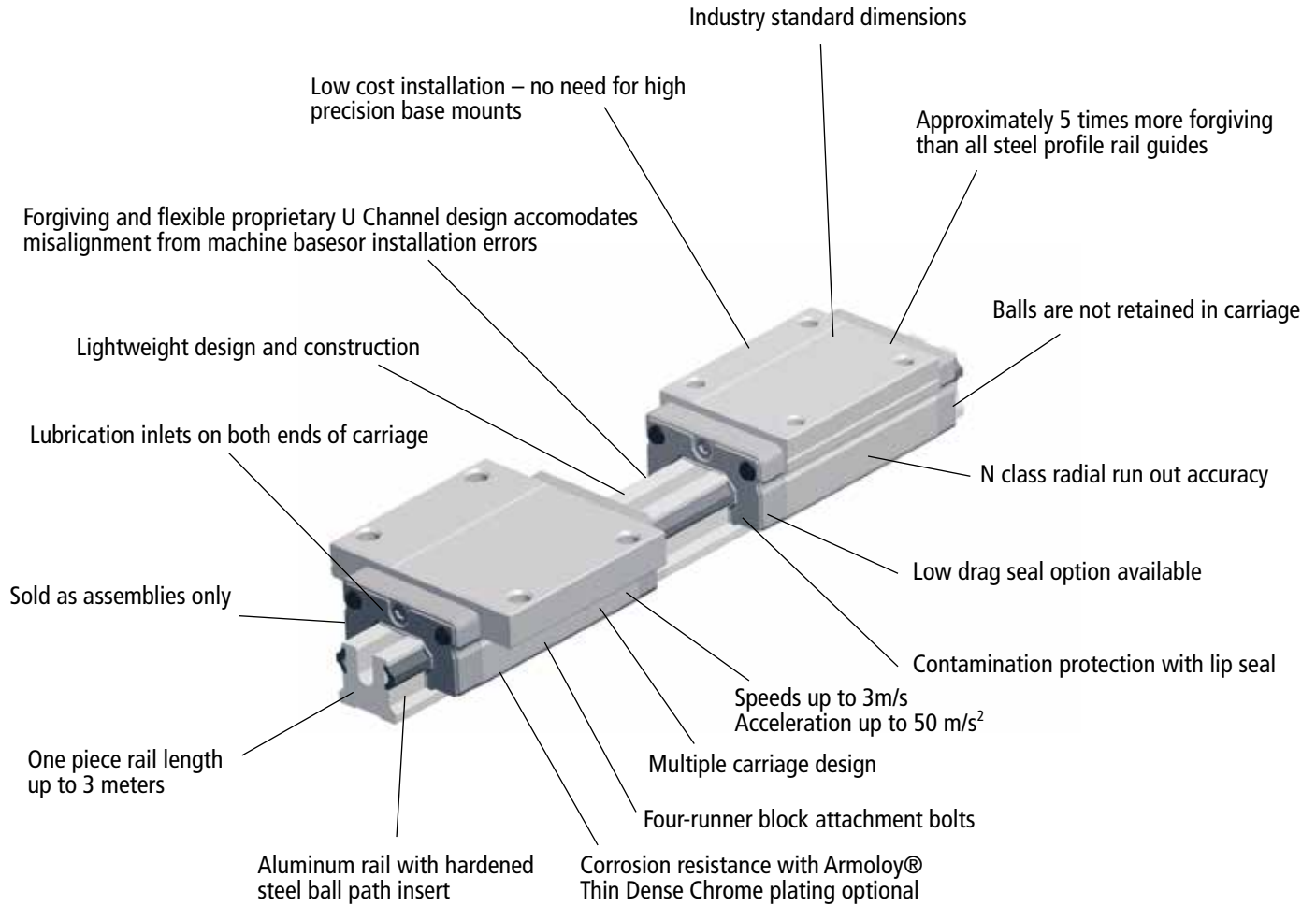




T-Series Ball Profile Rail

TECHNICAL BULLETIN

T-Series Profile Rail



Note: 1. Sold as assemblies only
2. Carriages are dimensionally matched to rails during assembly

T-Series Ball Profile Rail

Features

The Thomson T-Series Ball Profile Rail is lightweight, highly flexible and forgiving — an ideal choice for poor misalignment. It has a low cost of installation and industry standard dimensions for easy replacement. It is a lightweight and forgiving alternative to all-steel profile rail.

Materials

The Thomson T-Series Ball Profile Rail carriage and rail is produced from high quality aircraft aluminum alloy. The carriage has hardened steel load bearing plates. The rail has a custom ball path insert made of hardened steel. Stringent quality controls are in place to ensure consistency of steel from the source, allowing us to ensure that we deliver the highest quality product.

Lightweight

The aluminum carriage and rail dramatically reduces the total weight of the assembly making Thomson T-Series an ideal choice for applications requiring reduced weight inertia such as airplanes, ships, automobiles, etc.

Accuracy

As a result of its high flexibility to misalignment errors, the T-Series Ball Profile Rail is available in an N class radial run out only.

Forgiving to Misalignment

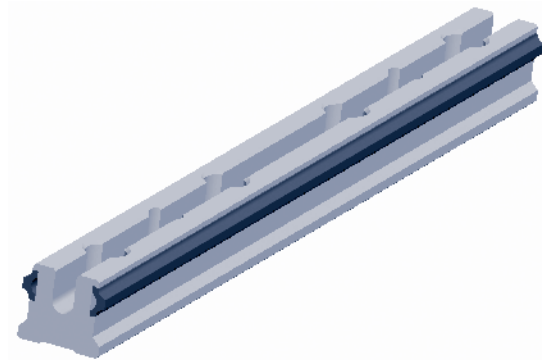
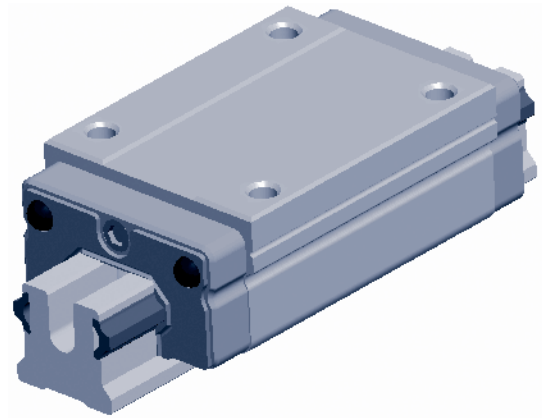
The Thomson T-Series propriety “U” channel construction allows the rail to “flex” to accommodate poor machine bases or misalignment errors.

Low Cost

The Thomson T-Series can be mounted direct to non-machined bases without sacrificing total operational efficiency or the need for special tools or gauges to ensure proper rail and base straightness. By eliminating the costly machined base and special tools the installation time or machine build time can be cut in half, saving valuable time and money.

Drop-in Replacement

The Thomson T-Series is designed to industry standard dimensions and rail hole patterns. This means it can be used as a drop-in replacement for any conventional all steel profile linear guide in the market today.

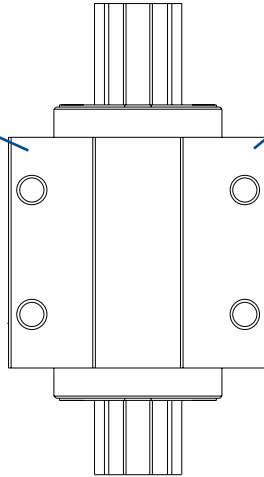
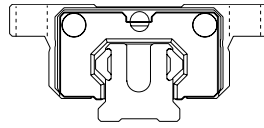


For more information, or to place an order, please contact your local authorized Thomson™ distributor or Danaher Motion at 1-540-633-3400, Fax: 1-540-633-4162, or E-mail at profilerail@DanaherMotion.com.

T-Series Carriage Styles

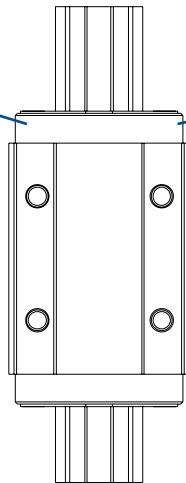
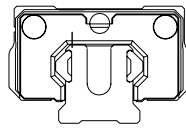
Standard Carriage Style A

Sizes 20, 25, 35
Dimensionally interchangeable to THK
HSR A, B, CA, CB and Thomson 511 A



Standard Short Hole Spacing Style G

Sizes 20, 25, 35
Dimensionally interchangeable to THK SR TB



Narrow Carriage Style E

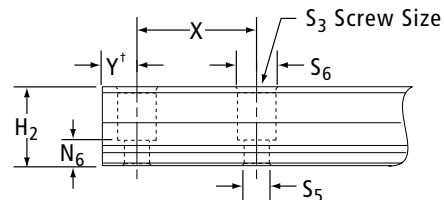
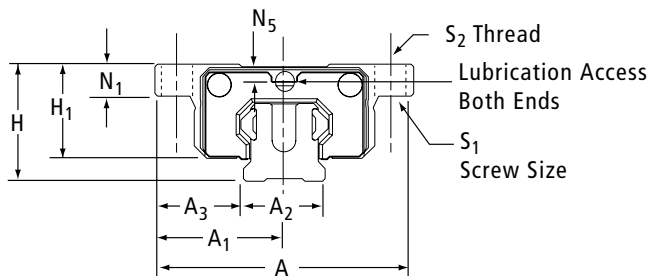
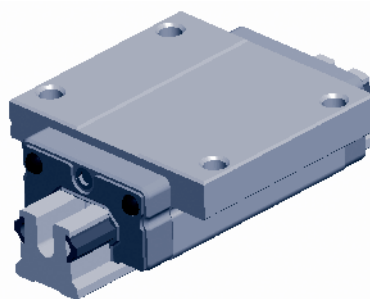
Sizes 20, 25, 35
Dimensionally interchangeable to THK
HSR R and TR and Thomson 511 E

Narrow High Style F

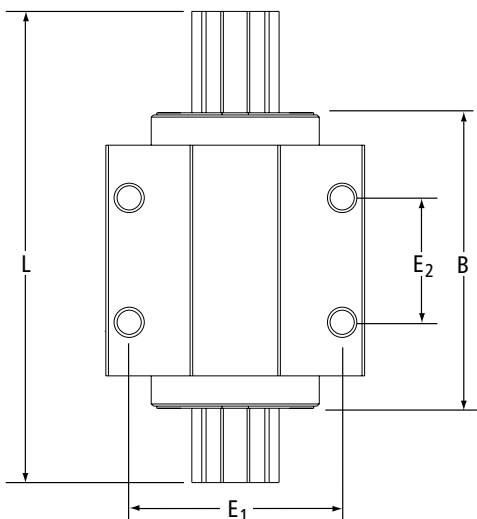
Sizes 20, 25, 35
Dimensionally interchangeable to THK SR W

For more information, or to place an order, please contact your local authorized Thomson™ distributor or Danaher Motion at 1-540-633-3400, Fax: 1-540-633-4162, or E-mail at profilerrail@DanaherMotion.com.

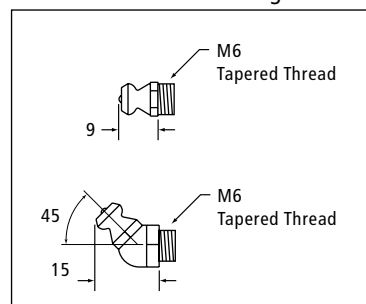
**T-Series
Style A and G**



†- Will be equal on both ends, unless otherwise specified.



**Supplied
Lubrication Fittings**



T-Series Profile Rail Standard High "A" Style

Size	A	A1	A2	A3	H	H1	H2	B	E1	E2	S1	S2	S3	S5	S6	N1	N5	N6	X	L _{max}
20	63	31.5	20	21.5	30	25	18	76	53	40	M5	M6	M5	5.8	9.5	10	6.25	7.5	60	3000
25	70	35	23	23.5	36	29.5	22	88	57	45	M6	M8	M6	7	10.7	12	8	10	60	3000
35	100	50	34	33	48	40	29	117	82	62	M8	M10	M8	9	14	15.26	6.6	11	80	3000

All dimensions in mm unless shown otherwise

T-Series Profile Rail Standard "G" Style

Size	A	A1	A2	A3	H	H1	H2	B	E1	E2	S1	S2	S3	S5	S6	N1	N5	N6	X	L _{max}
20	59	29.5	20	19.5	28	23	18	76	49	32	M5	M6	M5	5.8	9.5	8	4.25	7.5	60	3000
25	73	36.5	23	25	33	26.5	22	88	60	35	M6	M8	M6	7	10.7	9	5	10	60	3000
35	100	50	34	33	48	40	29	117	82	50	M8	M10	M8	9	14	15.26	6.6	11	80	3000

For more information, or to place an order, please contact your local authorized Thomson™ distributor or Danaher Motion at 1-540-633-3400, Fax: 1-540-633-4162, or E-mail at profilerail@DanaherMotion.com.

T-Series Style A and G

Dynamic Load Rating

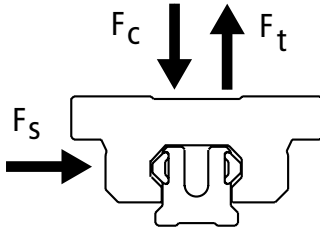
C = Dynamic load rating

The dynamic load rating is based upon a 100 km travel life. In order to compare with bearings rated for 50 km, divide the dynamic rating of the bearing rated for 50 km by 1.26.

Static Load Capacity

C_o = Static load capacity

The static load capacity is the maximum radial load that should be applied to the bearing while there is no relative motion between the carriage and rail.



Size	Style	Load Ratings N (lbf)		Mass Carriage kg	Rail kg/m
		C (@100km)	C_o		
20	A G	9000 (2025)	11000 (2475)	0.22	0.79
25	A G	13000 (2925)	15000 (3375)	0.30	1.06
35	A G	25000 (5620)	28000 (6295)	0.74	2.27

	Dynamic Load Rating	Load Limit
F_c	C	C
F_t	C	0.6C
F_s	C	0.6C

Bearing Travel Life Calculation

$$L = (C/F)^3 \times 100 \text{ km}$$

where:

L = travel life, km

C = dynamic load rating, N

F = applied dynamic load, N

Operating Parameters

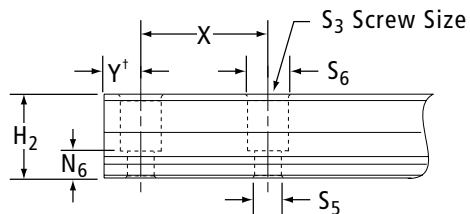
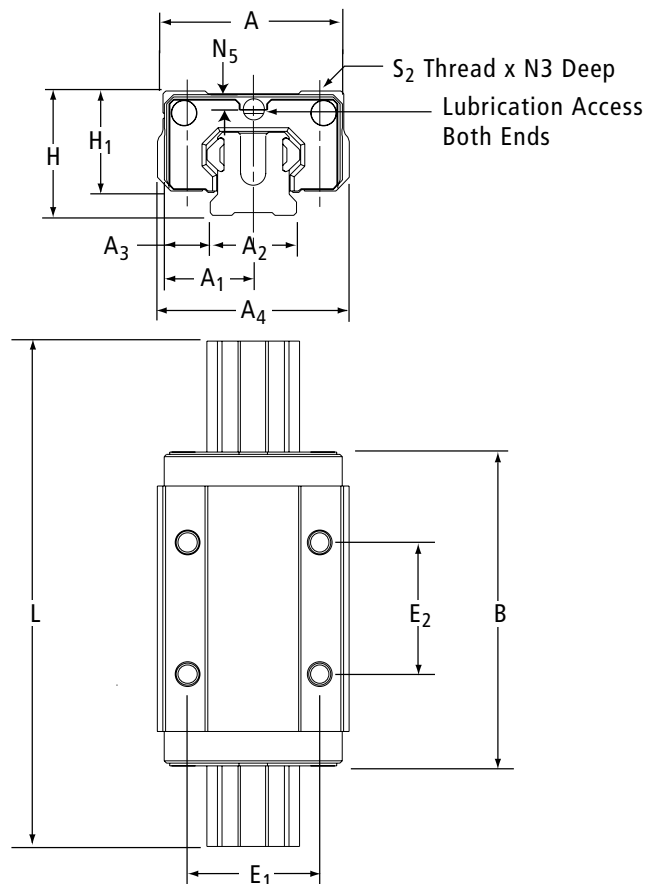
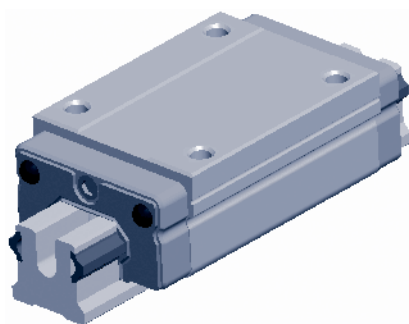
Maximum Velocity = 3 m/s

Maximum Acceleration = 50 m/s²

Maximum Temperature = 80°C

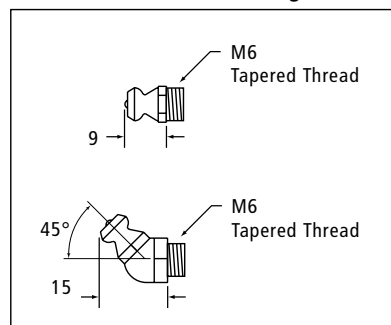
For more information, or to place an order, please contact your local authorized Thomson™ distributor or Danaher Motion at 1-540-633-3400, Fax: 1-540-633-4162, or E-mail at profilerrail@DanaherMotion.com.

**T-Series
Style E and F**



†- Will be equal on both ends, unless otherwise specified.

**Supplied
Lubrication Fittings**



T-Series Profile Rail Narrow "E" Style

Size	A	A1	A2	A3	A4	H	H1	H2	B	E1	E2	S2	S3	S5	S6	N3	N5	N6	X	L _{max}
20	44	22	20	12	41.5	30	25	18	76	32	36	M5	M5	5.8	9.5	6	6.25	7.5	60	3000
25	48	24	23	12.5	50.9	40	33.5	22	88	35	35	M6	M6	7	10.7	8	12	10	60	3000
35	70	35	34	18	68.0	55	47	29	117	50	50	M8	M8	9	14	12	13.6	11	80	3000

All dimensions in mm unless shown otherwise

T-Series Profile Rail Narrow High "F" Style

Size	A	A1	A2	A3	A4	H	H1	H2	B	E1	E2	S2	S3	S5	S6	N3	N5	N6	X	L _{max}
20	42	21	20	11	41.5	28	23	18	76	32	32	M5	M5	5.8	9.5	6	4.25	7.5	60	3000
25	48	24	23	12.5	51.0	33	26.5	22	88	35	35	M6	M6	7	10.7	8	5	10	60	3000
35	70	35	34	18	68.0	48	40	29	117	50	50	M8	M8	9	14	12	6.6	11	80	3000

All dimensions in mm unless shown otherwise

For more information, or to place an order, please contact your local authorized Thomson™ distributor or Danaher Motion at 1-540-633-3400, Fax: 1-540-633-4162, or E-mail at profilerail@DanaherMotion.com.

T-Series

Style E and F

Dynamic Load Rating

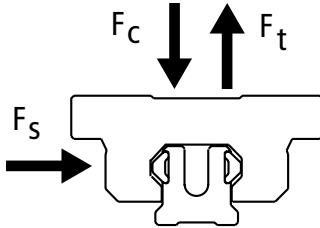
C = Dynamic load rating

The dynamic load rating is based upon a 100 km travel life. In order to compare with bearings rated for 50 km, divide the dynamic rating of the bearing rated for 50 km by 1.26.

Static Load Capacity

C_0 = Static load capacity

The static load capacity is the maximum radial load that should be applied to the bearing while there is no relative motion between the carriage and rail.



Size	Style	Load Ratings N (lbf)		Mass	
		C (@100km)	C_0	Carriage kg	Rail kg/m
20	A G	9000 (2025)	11000 (2475)	0.22	0.79
25	A G	13000 (2925)	15000 (3375)	0.30	1.06
35	A G	25000 (5620)	28000 (6295)	0.74	2.27

	Dynamic Load Rating	Load Limit
F_c	C	C
F_t	C	$0.6C$
F_s	C	$0.6C$

Bearing Travel Life Calculation

$$L = (C/F)^3 \times 100 \text{ km}$$

where:

L = travel life, km

C = dynamic load rating, N

F = applied dynamic load, N

Operating Parameters

Maximum Velocity = 3 m/s

Maximum Acceleration = 50 m/s²

Maximum Temperature = 80°C

For more information, or to place an order, please contact your local authorized Thomson™ distributor or Danaher Motion at 1-540-633-3400, Fax: 1-540-633-4162, or E-mail at profilerrail@DanaherMotion.com.

USA, CANADA and MEXICO

Thomson
203A West Rock Road
Radford, VA 24141, USA
Phone: 1-540-633-3549
Fax: 1-540-633-0294
E-mail: thomson@thomsonlinear.com
Literature: literature.thomsonlinear.com

EUROPE

United Kingdom

Thomson
Office 9, The Barns
Caddsdow Business Park
Bideford, Devon, EX39 3BT
Phone: +44 (0) 1271 334 500
E-mail: sales.uk@thomsonlinear.com

Germany

Thomson
Nürtinger Straße 70
72649 Wolfschlugen
Phone: +49 (0) 7022 504 403
Fax: +49 (0) 7022 504 405
E-mail: sales.germany@thomsonlinear.com

France

Thomson
Phone: +33 (0) 243 50 03 30
Fax: +33 (0) 243 50 03 39
E-mail: sales.france@thomsonlinear.com

Italy

Thomson
Via per Cinisello 95/97
20834 Nova Milanese (MB)
Phone: +39 0362 366406
Fax: +39 0362 276790
E-mail: sales.italy@thomsonlinear.com

Spain

Thomson
E-mail: sales.esm@thomsonlinear.com

Sweden

Thomson
Estridsväg 10
29109 Kristianstad
Phone: +46 (0) 44 24 67 00
Fax: +46 (0) 44 24 40 85
E-mail: sales.scandinavia@thomsonlinear.com

ASIA

Asia Pacific

Thomson
E-mail: sales.apac@thomsonlinear.com

China

Thomson
Rm 2205, Scitech Tower
22 Jianguomen Wai Street
Beijing 100004
Phone: +86 400 6661 802
Fax: +86 10 6515 0263
E-mail: sales.china@thomsonlinear.com

India

Thomson
c/o Fortive India Pvt. Ltd.
Unit No. FF A 07
Art Guild House, A Wing, 1st Floor, L.B.S Marg
Kurla – West, Mumbai – 400070 India
Phone: +91 22 6249 5043
E-mail: sales.india@thomsonlinear.com

Japan

Thomson
Minami-Kaneden 2-12-23, Suita
Osaka 564-0044 Japan
Phone: +81-6-6386-8001
Fax: +81-6-6386-5022
E-mail: csjapan@scgap.com

Korea

Thomson ROA
704 ASEM Tower (Samsung-dong),
517 Yeongdong-daero,
Gangnam-gu, Seoul, S. Korea (06164)
Phone: +82 2 6917 5047 / 5048
Fax: +82 2 528 1456 / 1457
E-mail: sales.korea@thomsonlinear.com

SOUTH AMERICA

Brasil

Thomson
Av. Tamboré, 1077
Barueri, SP – 06460-000
Phone: +55 (11) 3616-0191
Fax: +55 (11) 3611-1982
E-mail: sales.brasil@thomsonlinear.com